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How to use this Handbook

The Swinburne Higher Education Handbook is a complete reference for prospective and current students to the University’s academic programs and structures.

This Handbook is ordered into four main areas: general Swinburne information; undergraduate course information; postgraduate course information and subject details.

To locate a specific course, consult the main contents page, opposite, and identify the course title and page reference you require. All subject details for all courses are contained in the final chapter in alphanumeric order.

Course descriptions

Courses are listed in alphabetical order within the study level and area. Each course description outlines a course structure which includes a list of required subjects.

Subject details

All subjects or modules may be found in the final chapter of the Handbook. All subjects are allocated an alphanumeric code and are listed in this order.

Policies and procedures

The official policies, procedures and regulations relating to students is available from the University website: http://www.swin.edu.au/corporate/registrar/ppd/main.htm

Course and Subject Database

Swinburne’s Course and Subject Database is the source of this handbook’s course information, which was downloaded in September 2001. The database is updated regularly throughout the year. For more up-to-date information, the database can be accessed from our website under ‘Courses’ or at:
http://pandoraplus.swin.edu.au/guide

The Higher Education Handbook is published each year. Students should carefully read all official correspondence, the student newspaper ‘The Swine’, and University noticeboards to be aware of changes to this information.

Caution

While Swinburne University of Technology has used all reasonable care and skill in collating or presenting the information, the University cannot guarantee or take responsibility for the accuracy of the information provided. The information contained in this Handbook is as correct as possible at the date of publication, being November 2001.

The Freedom of Information Act 1982 (“the Act”), which came into force on 5 July 1982, applies to Swinburne University of Technology. The purpose of the Act is to extend the right of access to information to persons requesting a document held by an agency. Applicants are required to lodge their request in writing to the Freedom of Information Officer. It is the policy of the University to conform with the spirit and intent of the Act with regard to disclosure.

Swinburne University of Technology is committed to providing a learning and working environment that is based on equality of opportunity for all.
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Coat of Arms

The coat of arms, conferred on Swinburne by the College of Arms on 25 June 1969, is based on the coat of arms of the Swinburne family.

At a period during the 12th-13th centuries, when the northern counties of England were ruled by the Scots, a knight of France came to the aid of Queen Margaret of Scotland. She rewarded him with a grant of land in what is now Northumberland, on the banks of the Swin Burn, a small river that flows into the North Tyne, where he built a castle. He became known as William Swinburn(e) and soon the county reverted to the crown of England.

The Swinburne family coat of arms in medieval times was silver with three boars’ heads in triangular formation. In the 17th century, during the wars between the Stuart Kings and the Parliament of England, the Swinburnes fought for the royalists. After the restoration of Charles II in 1660, the head of the family was created a baronet for his services. The crest became a baronet’s coronet, with the boar’s head rising from it and the coat of arms, divided horizontally red and silver, was changed three cinquefoils counter-charged.

Swinburne holds a unique place among educational institutions in Australia in the link that persists between it and the founder and his family. The conferring of a modification of the family’s coat of arms preserves and strengthens that link.

The arms: the basic colours of red and white, and the cinquefoils charged on the shield, commemorate the arms of the Swinburne family. The omission of the third cinquefoil which appears in the family coat and the addition of the Bordure and shield, commemorate the arms of the Swinburne family. The omission of the third modification of the family’s coat of arms preserves and strengthens that link that persists between it and the founder and his family. The conferring of a baronet’s coronet, with the boar’s head rising from it and the coat of arms, divided horizontally red and silver, was changed three cinquefoils counter-charged.

Swinburne has a strong reputation in Australia and overseas as a provider of career oriented education and as a university with a commitment to research. The University maintains a strong technology base and important links with industry, complemented by a number of innovative specialist research centres which attract a great deal of international interest.

A feature of many Swinburne undergraduate courses is the applied vocational emphasis and direct industry application through Industry-Based Learning (IBL) programs. Swinburne was a pioneer of IBL, a program which places students directly in industry for vocational employment as an integral part of the course structure.

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language studies. In 2000, Swinburne Sarawak Institute of Technology was established in Kuching, East Malaysia. It provides seamless multisectoral tertiary education in engineering (computer systems, electronics and mechatronics), and business.

Our Future
To be a pre-eminent entrepreneurial university from the Asia-Pacific, thriving on new ideas and knowledge and exploiting our intersectoral heritage to create value for our stakeholders.

Our Business
To pursue the generation, transfer and creative application of knowledge and skills, using our intersectoral operations and programs.
To provide innovative education, research and training for the benefit of:
- students
- strategic partners
- industry and business generally
- staff
- the diverse communities and societies in which we operate.

Our Strategic Themes

The Entrepreneurial University
Swinburne will be a renowned centre for entrepreneurship and innovation. Entrepreneurship and innovation will be a hallmark of everything that we do. We will prepare students to participate in the new economy and society of the twenty-first century and heighten their awareness of, and capacity to make the choice between, employment and self-employment.

Research
We will scale up the levels of research activity in all Schools and Institutes in the Higher Education Division so that the Division becomes truly research-intensive.

Globalisation
Swinburne will become known as one of Australia’s most internationalised universities. All students will be able to gain exposure to international experience through the curriculum and through direct exposure to international environments. In a sense, every Swinburne student will be an international student. We will also further internationalise the student body.

Learning and Teaching
We will build optimal learning environments throughout the University. These learning environments will develop in all students their innate capacities for creativity and deep learning, and will be characterised above all by flexible learning and a more learner-centred approach.

The Intersectoral Advantage
We will capitalise on the advantages presented by operating at both the vocational education and training level and the higher education level in order to provide students, industry and business with manifold options.

Teaching Sectors
Swinburne has two teaching sectors under the control of one Council: Higher Education and Technical and Further Education (TAFE).

Higher Education
The Higher Education Sector offers professional qualifications ranging from degrees of Bachelor to graduate qualifications (certificates, diplomas and degrees of Master and PhD).
The Higher Education Sector comprises two divisions: Higher Education (Hawthorn /Prahran) and Swinburne, Lilydale.
A total of 12,956 students were enrolled in the Higher Education Sector in the year 2001.

Technical and Further Education (TAFE)
The TAFE Sector offers courses at professional and para-professional level covering diploma, certificate, apprenticeship, VCE and access programs. A number of specialist courses are also provided for industry and the community.
The TAFE Sector comprises four Teaching Operations: School of Arts, Hospitality and Sciences; School of Business and eCommerce; School of Engineering; School of Social Sciences.
A total of 22,872 students were enrolled in TAFE courses in 2001.
Governance Structure

Council

Statutory Boards of the University

- Academic Board
- Higher Degrees Committee
- Course Performance Review Committee
- Academic Policy & Planning Committee
- Divisional Advisory Boards:
  - TAFE
  - Higher Education (Hawthorn/Prahran)
  - Lilydale
- Board of Technical Studies

Committees of Council

- Joint Planning and Resources (JPRC) Committee
- Finance Committee
- Staffing Committee
- Campus Planning & Building Committee
- Legislation Committee
- Executive Committee
- Search Committee
- Honorary Degrees & Professor Emeritus Committee
- Remuneration Committee
- Ethics Committees
- Animal Experimentation Ethics Committee
- Audit Committee
- Human Research Ethics Committee
University Structure

Council

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Senior Deputy Vice-Chancellor

Deputy Vice-Chancellor Higher Education

Deputy Vice-Chancellor Lilydale, and Deputy Vice-Chancellor Learning and Teaching

Deputy Vice-Chancellor TAFE

Pro Vice-Chancellor Research, and Deputy Vice-Chancellor Industry Relationships

Vice-President

Vice-President External Affairs

Corporate Services

Research Institutes / School & Unit (not affiliated with a Division)
- Australian Foresight Institute (AFI)
- Brain Sciences Institute (BSI)
- Graduate School of Integrative Medicine (GSIM)
- Industrial Research Institute Swinburne (IRIS)
- Institute for Social Research (ISR)
- Swinburne Knowledge
Swinburne, Lilydale Division

Deputy Vice-Chancellor (Lilydale)

Head of Studies, Academic Programs

Divisional Manager, Divisional Administration

Director, Centre for eBusiness and Communications, and Centre for Regional Development
Staff and Officers of the University

University Council

Chancellor (Acting)
T.W. Brown, FCA, ASCPA

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H. Gray, BA(Hons), LLB(Hons)(Melb)
R. Hodges, DipEng(Aero)(RMIT)
S. Lipski, AM, BA(Melb)
D. Watson, DipMS(Lon), FOIS, FAICD, FAIF
I.R. Wilson, BCom(Hons), MBA(Mon)

Appointed by the Minister for Tertiary Education and Training
K. Cleave, BCom(LaT)
J. Austin, BA, DipEd(Sheff)
T.W. Brown, FCA, ASCPA (Deputy Chancellor)
J. King, BA(Murd), FAICD
K.N. Watson, AM, BA, DipEd, BEd(Melb)
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Elected by TAFE Academic Staff
D. Street, BA(Hons)(Otago), DipEd(Christchurch)

Elected by General Staff
B. Camfield, BA(SIT), AssocDipLib(RMIT)

Elected by Higher Education Students
G. Gupta, BSLH, GradDipInTech(Information Systems Development)(SUT)

Elected by TAFE Students
J. Pennyman, DipBus(Health and Community Services Management)

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Australian Foresight Institute
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G. Arger, MEEd(Hons)

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T. Pearse
Manager, PC Support Services
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G. Brick

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D. Sharp
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F. Ghobt, BE(Alt), MSc(WU), PhD(WU)
M. Singh, MSc, PhD(Rookee)
J.M. Steiner, BSc(Hons), PhD(Mon)

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N. Li, MSc(China), PhD(Mon)
D. Lucy, DipEd(Melb), BSc(Hons)(Mon), PhD(Mon)
D.C. Mainwaring, DipEd(MSC), MSc(LaT)
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**Professor**
Prof T. Barr, BEd(LaT), MA(SIT)

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F. Gleeson, BA(Mon), BEd(Melb), MA(LaT)
L. Gye, BA(SUT), DipEd(Melb)
J. Schwartz, BEd(Mon), MEd(LaT)

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**Chair**
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E. Hardie, BA(USQ), PhD(Melb), MAPsS

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N. Crafts, BBS(Hons)(LaT)
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R. Galligan, BSc(Hons)(WA), MA(Toronto), PhD(Toronto)
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Director, Business Development
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Acting Director, Consulting and International
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Director, TAFE School of Arts, Hospitality and Sciences
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**Research Institutes and Centres**

In 1995, the University’s Board of Research and Graduate Studies adopted a three-tier structure for research development and support. Tier 1 comprised major research centres and institutes and Tier 2 comprised emerging research groups. Both Tier 1 and Tier 2 centres received central university infrastructure funding for their research.

During 1995/96 two major research centres were granted the status of Tier 1, and the establishment of the first Tier 2 centres was approved. The BSI collaborates with a number of leading brain research laboratories and develops new models of brain function, testing them by eliciting specific patterns of brain activity.

**Brain Sciences Institute (BSI)**

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Brain Sciences Institute (BSI) is a major research and postgraduate teaching facility, whose mission is to understand the neural basis of cognition and emotion in normal and disordered brain states. To undertake this work BSI has adopted a multidisciplinary research strategy that combines functional neuroimaging techniques such as high-spatial resolution brain electrical activity recording and functional magnetic resonance imaging with the disciplines of neuropharmacology, neuropsychology and neuropsychiatry. Specifically, our functional neuroimaging methods make use of custom-built biomedical instrumentation, and a suite of digital signal processing methods.

BSI designs and manufactures the sophisticated electronic devices required to detect, analyse and visualise the brain at work; draws on established work and develops new models of brain function, testing them by eliciting specific patterns of brain activity; applies its expertise and technology to clinical research projects; develops software which provides accurate data about the effects of various drugs on the brain.

The BSI collaborates with a number of leading brain research laboratories and functional neuroimaging research centres in Australia, Japan and the United States.

**Centre for Applied Colloid and BioColloid Science**

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Established in 1980, and now part of the School of Engineering and Science, the Centre has become a strong focal point of postgraduate research for many Biotech industries. The Centre also promotes the teaching of Colloid and BioColloid science at all levels — undergraduate and postgraduate, coursework and research degrees. Strategic links and institutional collaborations across Australia and the world ensure that our work is well recognised and ready to face the challenges of the future.

**Industrial Research Institute Swinburne (IRIS)**

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The Industrial Research Institute Swinburne (IRIS) was established in 1985. IRIS has three major research streams: being research, postgraduate education and technology diffusion. Since its establishment as a research institute of the University, the scope of IRIS has expanded considerably to include a range of core technology areas. These include:

- Automation and control
- Biotechnology
- Computer-aided design and manufacture
- Industrial engineering
- Industrial information technologies
- Laser technologies and applications
- Microtechnology
- Microwave technologies
- Non-contact inspection
- Polymer processing
- Rapid Prototyping
- Robotics
- Waterjet cutting systems.

Approximately eighty per cent of IRIS research work is applied and industry-oriented, and the remainder of the research effort is basic research into core technology areas. IRIS is a member of three cooperative research centres (CRCs), which combine a number of industry and university partners. These centres are:

- The CRC for Intelligent Manufacturing Systems and Technologies (IMS&T)
- The CRC for Cast Metals Manufacture (Castmm)
- The CRC for Microtechnology
- The CRC for Welding Structures.

IRIS provides a range of research services, from primary research to development projects, and can deliver projects of any size. IRIS is committed to excellence in research and development, and has a proven record of delivering projects on time and to budget. IRIS operates as a contract research organisation, and has a reputation for excellence in research and development.

**Tier 1 and 2 Research Centres and Institutes**

Brain Sciences Institute (T1)

Centre for Applied Colloid and BioColloid Science (T1)

Industrial Research Institute Swinburne (IRIS) (T1)

Institute for Social Research (T1)

Swinburne Computer Human Interaction Laboratory (SCHIL) (T2)

**Centre for Applied Colloid and BioColloid Science**

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The Cities and Housing program focuses on the reshaping of cities and the nature of urban life. It explores the equity and quality of life implications of these changes, and what governments might do to address them. The program also examines the changing nature of housing systems, both nationally and internationally, with particular reference to the ability of housing markets and housing policy to produce affordable and appropriate housing.

The Citizenship and Social Policy program focuses on three broad themes: democracy, citizenship and human rights; the impact of economic rationalism and globalisation; and defining and measuring progress and wellbeing (democratic policy and ethical dimensions). Within these themes, research is being undertaken on the development of national progress indicators; local community indicators and their extension into the local government sector; constitutional reform; and national, state and local values as they affect community planning and wellbeing priorities.

The Media and Communications program has two broadly interrelated themes. The first is to analyse the growth and convergence of media, information technology and telecommunications, collectively referred to as communications. The second theme examines the ways in which communications, and the cultures they produce, have modified our perception of space, place and identity, and society.

Swinburne University of Technology has a state-of-the-art usability laboratory in which empirical research can be conducted. SCHIL has a nested postgraduate program in strategic foresight, which commenced in 2001 with the Graduate Certificate. The Graduate Diploma, Masters and Professional Doctorate in Strategic Foresight will follow suit each progressive year.

The primary purpose of the Institute is to facilitate the emergence and application of high-quality foresight in each major sector. This is part of a wider strategy to encourage wider social, cultural and economic shifts from a society driven by the past to one that is increasingly open to the forward view and therefore able to be futures-responsive.

**Australian Graduate School of Entrepreneurship (AGSE)**

Graduate School of Entrepreneurship (AGSE) has a major commitment to research in the field of entrepreneurship and the closely related areas of strategy, leadership and organisation complexity. Swinburne University has been active in the entrepreneurship field since the mid-1980's when it launched its first postgraduate program in entrepreneurship. Currently, AGSE is carrying out the Australian component of the strategically important international Global Entrepreneurship Monitor (GEM) report, a longitudinal comparative study of the state of entrepreneurship in over thirty countries (see research updates at the AGSE web site).

Our research interests range from macro policy drivers at the national and regional level, to micro issues surrounding the start up and development of new enterprises in both the business and not-for-profit sectors. Specific interests include the financing of new ventures, the characteristics of entrepreneurs, the education and development of entrepreneurs, corporate entrepreneurship ('intrapreneurship'), the management of creativity and innovation and the commercialisation of innovation.

We take a broad view of entrepreneurship and recognise the similarities (and differences) existing between business and social entrepreneurship. Underlying this view is that a healthy and civilised society is best served by having both a vibrant and ever renewing business sector, as well as a healthy and active community or not-for-profit sector.
In addition, AGSE offers a range of postgraduate coursework programs. It was the first academic centre in the world to offer a Masters level program in entrepreneurship, the Master of Entrepreneurship and Innovation (MEI). The Swinburne MBA is also a leader in the field, with a strong focus on corporate entrepreneurship and the development of successful entrepreneurial leaders. The School has a growing network of national and international affiliations with innovation-oriented centres of teaching, research and practice.

**Centre for Astrophysics and Supercomputing Research Group**

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The Centre for Astrophysics and Supercomputing is involved in a wide range of astronomical topics. These include the discovery and simulation of millisecond pulsars, simulations of galaxy formation, understanding the nature of dark matter in the universe, probing the formation and evolution galaxy groups, and understanding the origin of globular cluster systems and the search for mysterious high-velocity clouds of gas in the Milky Way. The Centre operates one of the most powerful supercomputers in Australia, which is exploited in the search for new pulsars, galaxy simulations and all-sky Hydrogen gas surveys. We also have at our disposal a 3D virtual reality theatre for visualisation of scientific data.

**Centre for Atom Optics and Ultrafast Spectroscopy (CAOUS)**

Formerly the Swinburne Centre for Ultrafast Spectroscopy (SCULS).  
Director: Prof. Peter Hannaford  
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Website: www.swin.edu.au/rescentres/soll/caous/

The Centre for Atom Optics and Ultrafast Spectroscopy (CAOUS), formerly SCULS, is a newly established facility at Swinburne University of Technology, Hawthorn Australia. The Centre, led by Prof. Peter Hannaford, has several research programs involving the latest technologies using the interaction of light and matter. These include a range of projects involving our state-of-the-art ultrafast pulsed laser system. There are also several projects involving applications of laser-cooled and trapped atoms, as well as theoretical work on quantum information. CAOUS, together with the Centre for Micro- Photonics (CMP) and the Centre for Imaging and Applied Optics (CIAO), is housed in the Swinburne Optronics and Laser Laboratories (SOLL). The research at CAOUS can be loosely grouped into the following categories:

- Atom Optics
- Ultrafast Spectroscopy
- Quantum Information

**Centre for Biomedical Instrumentation**

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The Centre was established to provide a focus for research and consulting activities related to instrumentation for medical, biophysical and psychophysiological use. The Centre draws on the strengths in instrumentation and biophysics within the School of Biophysical Sciences and Electrical Engineering.

At present, research activities are organised into the following groups: the Neuropsychology Laboratory, the Sensory Neuroscience Laboratory, the Electromagnetic Interactions with Tissue Laboratory and the Cell Calcium Dynamics Laboratory. A number of additional projects are being undertaken in conjunction with other Swinburne research centres and with local hospitals. Other aims of the Centre include:

- To offer a facility enabling individuals to pursue postgraduate studies in biomedical instrumentation.
- To offer short courses serving the needs of medical and health personnel and the biomedical instrumentation industry.
- To assist in the teaching of biomedical instrumentation in undergraduate and postgraduate Swinburne programs.
- To provide a contact point for visitors from other institutions or companies to undertake collaborative projects.
- To promote the availability and commercial development of intellectual property originating within the centre.

**Centre for Business and Management Research (CBMR)**

Director: Prof Miles Nicholls  
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Website: www.swin.edu.au/business/cbmr/welcome.htm

The Centre for Business and Management Research is located within the School of Business. Its role is to support and facilitate the research and consulting activities undertaken by members of the School of Business. This is achieved by: coordinating facilities and providing assistance to researchers and consultants of the School and generating research and consulting opportunities for members of the School. The CBMR provides an interface with the commercial sector for the School’s consulting/research and offers a range of services which include: collaborative research with business/industry; consultancy and research services that provide practical and applied outcomes; training courses and professional development programs - customised to the specific needs of corporate and public sector organisations and a variety of undergraduate and postgraduate degree programs are also offered in the School of Business.

At present CBMR activities are organised around, but not confined to, five interrelated generic streams of research. Marketing; Human Resource Management and Organisation Behaviour; Accounting and Finance; Mixed Mode Modelling; Demography and Sample Surveys. Each year the Centre conducts a seminar series featuring invited national and international presenters on topical issues in management and business.

**Centre for Convergent Technologies (CCT)**

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The Centre for Convergent Technologies is a part of Swinburne’s Human-Centred Convergent Technologies area of research excellence. Our research focuses on the convergence of telecommunications and computing, as exemplified by the Internet. This covers Internet Protocol Internetworking, the underlying broadband and mobile digital telecommunication and data networks, the component multimedia information presentation and communication techniques, the inherent internet software technologies - and the application of all of these technologies to readily accessible uses in our society.

Our key research skills lie in the following areas:

- Third generation cellular networks
- Traffic performance of cellular mobile communications networks
- Wireless internet access
- Performance analysis of local area networks
- Quality of Service (QoS) in mixed traffic networks
- Network traffic management
- Usage-based pricing
- Network optimisation
- Design and evaluation of source coding techniques for mobile digital communication systems.
- Adaptive signal processing for wireless multimedia communications
- Application of cellular telecommunication architectures for intelligent factory applications
• Design and management of high speed telecommunication infrastructure for e-business networks
• Traffic modelling for optical WDM networks
• Strategic financial risk analysis using time series analysis
• Internet economics
• Queueing theory
• Stochastic simulation

We supervise postgraduate students in a range of applied and theoretical MEng or PhD research programs, at any time we have some 10-20 active research students doing projects. These students may be part-time or full-time, and while most of the projects consist of fundamental theoretical research, there are also many projects of a very applied nature conducted in industry or supported by industry via grants or research contracts.

**Centre for eBusiness and Communication**

Director: Assoc Prof Helen Paterson
Contact: Kathryn Pring
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Website: www.it.swin.edu.au/ebusiness/

The Centre for eBusiness and Communication was established at Swinburne University of Technology, Lyndale in 1998. The Centre was founded primarily to address the needs of business people and others working in an environment significantly changed by the proliferation of eCommerce-enabling technologies and digital communication systems.

The development of globally integrated networks of suppliers, products and customers has dramatically changed the way we conduct business, both locally, regionally and globally. A report compiled in May 1999 found that Internet use amongst small businesses had increased from one-third in 1998 to almost one-half in 1999. Similarly, Internet use amongst medium businesses rose from two-thirds in 1998 to 80 percent in 1999. Whilst use of eCommerce was confined to an average 13 percent of small to medium sized businesses (SMEs), more than one-third indicated they would be using eCommerce within the subsequent 12 months (Telstra, 1999, Small Business Index. Survey of Computer Technology and eCommerce in Australian Small and Medium Business).

The Centre for eBusiness and Communication has begun to develop a core of expertise and knowledge in the emerging fields of digital commerce and online business application. Through a suite of credible initiatives in multidisciplinary research, program development, project management and consulting services, the Centre contributes to the growth of small and medium business and the local community to better understand and adopt new electronically-enabled business and communication applications.

**Centre for Imaging and Applied Optics (CIAO)**

Director: Dr Alex Marzolini
Telephone: +61 3 9214 8866
Fax: +61 3 9819 0856
Email: amarzolini@swin.edu.au
Website: www.swin.edu.au/optics/ciao/

The Centre for Imaging and Applied Optics (CIAO) was formed in December 1997, in response to the new Swinburne University initiatives in laser technology. CIAO shares a modern, purpose-built, optics laboratory facility on the ground floor of the Applied Science building (Hawthorn campus). CIAO is involved in applied optics research, primarily in the areas of fibre optic sensing, new optoelectronic materials, and fibre optic adaptation of confocal and two-photon laser scanning microscopy.

CIAO has developed several collaborative links with industry. The Centre currently collaborates with Optiscan Imaging Limited (a leading Australian designer and manufacturer of confocal microscope systems) to research and develop “next generation” imaging instruments.

CIAO’s main research interests are in the following areas:

- Fibre optics sensors
- Development of novel rare earth doped glasses for laser applications
- Laser Scanning Confocal Microscopy
- Two-photon microscopy

This centre forms a part of the Swinburne Optics and Laser Laboratory which is a world-class centre for fundamental and applied research in lasers, microscopy and photonics.

**Centre for Intelligent Systems and Complex Processes**

Director: Assoc Prof Tim Hendtlass
Telephone: +61 3 9214 8863, or +61 3 9214 5272 (Postgrad Area)
Fax: +61 3 9819 8443
Email: thendtlass@swin.edu.au
Website: gene.bsee.swin.edu.au/

The Centre for Intelligent Systems and Complex Processes has been established within the School of Biophysical Sciences and Electrical Engineering (BSEE) to act as a focus for, and to promote, the work being carried out in the school on areas such as artificial neural networks, fuzzy logic, expert systems and genetic algorithms.

**Centre for Internet Computing and eCommerce (CICEC)**

Director: Assoc Prof Yun Yang
Email: yun@it.swin.edu.au
Telephone: +61 3 9214 8752
Fax: +61 3 9819 0823
Website: www.it.swin.edu.au/centres/cicec/default.htm

CICEC performs innovative research into the development and application of Internet technology for Internet computing and electronic commerce. Our primary focus is to produce insights, frameworks, models and prototypes for software developers, information technologists, software, knowledge and information systems managers and Internet entrepreneurs. Our key strength is the ability to integrate our multi-disciplinary skills and expertise with a view towards solutions to contemporary business and technological challenges. Research at CICEC covers various themes, including:

- Internet Computing (agents, mobile computing, electronic commerce, intranets, extranets, trust)
- Web-based Computer-Supported Cooperative Work (CSCW) and Real-time Groupware.
- Component-based Distributed Systems
- Information Visualisation

**Centre for Mathematical Modelling**

Director: Assoc Prof Alan Easton
Telephone: +61 3 9214 8285
Fax: +61 3 9819 0821
Email: alan.easton@swin.edu.au
Website: www.swin.edu.au/cmm/

The Centre for Mathematical Modelling has been established to promote research and to provide a focus for research in mathematical modelling within the School and the University. It brings together expertise and experience from a wide range of mathematical disciplines with a long established reputation in educational, consulting, and research activities.

The mission of the Centre is to be an internationally recognised facility undertaking research and development in mathematical modelling for industry and commerce.

The main objectives of the Centre are:

- To carry out research in mathematics and its applications in Australia and internationally.
- To be a Centre for graduate research training in mathematical modelling.
- To undertake consultation and development projects in mathematical modelling for the wider community.
Centre for Micro-Photonics (CMP)

Director: Prof Min Gu
Telephone: +61 3 9214 8776
Email: mgu@swin.edu.au
Website: www.swin.edu.au/rescentres/soll/cmp/

The Centre for Micro-Photonics (CMP) is funded by the Chancellory Strategic Initiatives Program at Swinburne University of Technology. It was established at the School of Biophysical Sciences and Electrical Engineering in early 2000. The CMP is part of Swinburne Optics and Laser Laboratory.

The mission of the CMP is to become an internationally leading centre in the area of micro-photonics and to create a world-class laboratory for training research students. The aim of the CMP is to develop novel optoelectronic imaging methods for biological studies and industrial applications, and to understand working principles of optoelectronic instruments in biological and industrial applications, and to understand mechanisms for light interaction with biological materials. The CMP has been equipped with state-of-the-art optics and laser facilities for conducting research projects in the area of biophotonics, photonic data storage and devices, and nano-photonics.

Current research projects within the CMP include three-dimensional microscopic imaging through tissue-like media for cancer detection, near-field scanning imaging based on optical trapping, two-photon fluorescence microscopy and its applications in biological studies, three-dimensional optical data storage, laser tweezers for single molecule detection, laser (lasing in micro-cavities, and photonic crystals.

This centre forms part of the Swinburne Optics and Laser Laboratory which is a world class centre for fundamental and applied research in lasers, microscopy and photonics.

Centre for Molecular Simulation

Director: Prof Richard Sadus
Telephone: +61 3 9214 8773
Fax: +61 3 9819 0823
Email: RSadus@swin.edu.au
Website: www.it.swin.edu.au/centres/cms/

The primary aim of the Centre for Molecular Simulation (CMS) is to obtain a fundamental understanding of natural phenomena using molecular simulation.

Molecular simulation refers to the application of computing techniques such as Monte Carlo (MC) and molecular dynamics (MD) to study the properties of atomic and molecular systems. Unlike other computing methods, molecular simulation provides exact results without relying on unnecessary simplifying assumptions or approximations. Recent advances in both algorithm design and dramatic improvements in high performance computing power mean that molecular simulation is on the verge of revolutionising the practice of science. It can provide accurate insights into the nature of materials where experiment is either imprecise or impossible. Consequently it provides a valuable opportunity to make significant scientific discoveries. In particular, molecular simulation is likely to have a growing impact on both biotechnology and nanotechnology by providing the molecular blueprint for purpose-made molecules.

CMS provides a unique focal point for work on simulation, attracting some of the best scholars in the Asia-Pacific region and elsewhere. The interdisciplinary nature of the research has attracted researchers with backgrounds in physics, chemistry, chemical engineering and computer science. Examples of the fundamental research currently undertaken by CMS staff and postgraduate students include the investigation of:

- Molecular motors.
- Transport properties of fluids.
- Many-body intermolecular interactions on the properties of fluids.
- Phase transitions at high temperatures and pressures.
- Molecular rheology of polymeric fluids, and
- Thermodynamics and statistical mechanics.

Centre for Psychological Services

Manager: Roger Cook
Telephone: +61 3 9214 8653,
Fax: +61 3 9819 8857
Website: www.swin.edu.au/sbu/psychology/cps/cpsbannerhome.htm

The Centre offers the community a range of specialist psychological services. It is staffed by a team of experienced psychologists all of whom have advanced qualifications in their specific fields. The Centre is the latest educational and professional development initiative by an academic department which has achieved a widespread and enviable reputation for its teaching and research.

The Centre provides three major services for the community:

- Counselling and psychotherapy
- Education and professional training
- Research and consultancy services

The Centre offers a range of services where the research and analysis skills of the staff are available for particular projects being funded by the corporate or government sectors. Specifically, staff offer their expertise in the design and execution of program evaluation and social research. Some areas which exemplify the type of work typically carried out are:

- Organisation development
- Social impact studies
- Evaluation of initiatives in social welfare programs

Centre for Software Engineering (CSE)

Director: Prof T.Y. Chen
Contact: Neroli Finlay
Telephone: - +61 3 9214 5453
Website: info@it.swin.edu.au

The Centre for Software Engineering focuses its research on various aspects of software engineering. Current research areas include debugging, formal methods, maintenance, reliability, requirement engineering and testing.

Graduate School of Integrative Medicine (GSIM)

Head: Prof Avni Sali
Contact: Executive Officer, Mrs Carol Low
Telephone: +61 3 9214 5463
Fax: +61 3 9214 8009
Email: clow@swin.edu.au
Website: www.swin.edu.au/gsim/gsimmed_home.htm

The Swinburne Graduate School of Integrative Medicine is designed to provide medical professionals with educational programs and research opportunities in complementary therapies. The establishment of the School in 1998 is a reflection of the growing number of medical practitioners who are combining complementary medicines and therapies with conventional medical practice.

The Graduate School of Integrative Medicine will benefit from partnerships with existing research activities at the University, particularly in the areas of applied neuroscience, biophysics and biomedical instrumentation, biochemistry, and psychology/psychophysiology.

Swinburne University Hospital, purchased with the help of the GSIM Advisory Board, is a powerful extension to the programs and research conducted at GSIM.
Information Technology Innovation Group (ITIG)

Head: Dr Ying Leung
Telephone: +61 3 9214 8765
Fax: +61 3 9214 8736
Email: yleung@swin.edu.au

The mission of the ITIG is to provide quality research and development services to the information technology industry. ITIG’s immediate goal is to attain a national reputation as a group that provides innovative and state-of-the-art computing solutions to industry problems.

Currently, ITIG is working on a wide range of projects involving mobile computing technologies, pen-based computing devices, world wide web and internet applications, and multimedia development.

The National Centre for Gender & Cultural Diversity

Manager: Dr Sue Lewis
Telephone: +61 3 9214 8633
Fax: +61 3 9214 8643
Email: ncgcd@swin.edu.au
Website: www.swin.edu.au/corporate/ncgcd

The National Centre for Gender & Cultural Diversity is a leader in the field of diversity research and consultancy. Since 1992, we have built an international reputation for innovative, collaborative projects centred on gender and diversity. We approach cultural and organisational change through the lens of diversity and therefore complement the strategic HR approach currently adopted by many organisations.

Neuropsychology Laboratory

Director: Assoc Prof Con Stough
Telephone: +61 3 9214 8167
Email: cstough@swin.edu.au
Website: www.swin.edu.au/bioscieleceng/neuropsych/

The Neuropsychology Laboratory includes the Organisational Psychology Research Unit, plus study areas in:
- Electromagnetic Radiation
- Herbal & Nutrient Research
- Pharmaceuticals
- Intelligence
- Clinical, Neuropsychological & Forensic Psychology, and
- Drugs, Driving & Society.

Sensory Neuroscience Laboratory

Director: Dr John Patterson
Telephone: +61 3 9214 8862
Fax: +61 3 9819 0856
Email: j.patterson@swin.edu.au
Website: www.swin.edu.au/bioscieleceng/SNL/

The Sensory Neuroscience Laboratory is a Swinburne research initiative on the electrophysiological analysis of sensory function. Currently olfaction, taste and vision are the key areas of research for which innovative approaches in the design of stimuli, stimulus delivery and methodology are providing solutions to applied and basic science questions.

Providing specialist research capacity for a variety of industries is considered as important as the undertaking of fundamental research. To this end the laboratory has a number of applied projects which are supported by a number of industry bodies as well as individual companies.

The laboratory has the capacity to extend the range of applied and fundamental projects, either in the current areas of research, or into new avenues. There is a strong desire to increase the collaborations as well as to undertake contract research for organisations.

A strength of the Laboratory is the capacity to innovate in monitoring human and animal activity and physiology. When combined with the range of support from colleagues in the School, the staff are able to integrate many disciplines into an effective team.
Undergraduate Courses
## Higher Education (Hawthorn/Prahran)

### Business, Innovation and Management

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### Multimedia

#### Degrees
- J044 Bachelor of Multimedia (Business Marketing)
- J055 Bachelor of Multimedia (Media Studies)
- J060 Bachelor of Multimedia (Multimedia Software Development)
- J043 Bachelor of Multimedia (Networks and Computing)

#### Double Degrees
- J032 Bachelor of Multimedia (Networks and Computing)/Bachelor of Engineering (Telecommunications and Internet Technologies)
### Social Science and Arts

**Degrees**

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### National Institute of Circus Arts (NICA)

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### Swinburne, Lilydale

**Applied Science**

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### Abbreviation of Undergraduate Awards

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<td>BHlthSc/Public and Environmental Health)</td>
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**National Institute of Circus Arts (NICA)**

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**Swinburne, Lilydale**

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### Abbreviation of Undergraduate Awards*

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<td>BBus/AdvDipBus(Marketing)</td>
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<td>BBus/AdvDipBus</td>
<td>BBus/AdvDipBus(Accounting)</td>
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<td>L070</td>
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<td>BTech(Information Technology &amp; Software Engineering)</td>
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General Undergraduate Information

Admission with Advanced Standing

It is Swinburne University of Technology's policy to grant credit to students with prior post-secondary studies who have been admitted to the University's courses. The credit granted will be at the highest level consistent with the student's chance of success. The aim is to allow credit to be granted at least up to the level recommended by the Australian Vice-Chancellors' Committee.

Students wishing to apply for credit transfer must first make a VTAC application for the Swinburne course in which they are interested. Swinburne’s credit transfer program enables students with appropriate post-secondary qualifications to enter the University’s degree courses with advanced standing. This means that recognition - or ‘credit’ - is given for work already done, and allows students to fit into new courses at the right level.

Credit may be given as ‘block’ credit, as in a whole year of a degree program, as ‘specified’ credit, where students are exempted from particular units or subjects, or as ‘unspecified’ credit.

Applications for credit transfer are normally made at the time of enrolment in early February, or early July if enrolment is for second semester. Students complete a Swinburne "Application for Exemptions" form and must have evidence of completion of their previous course. All applicants need to make sure that supporting documentation – course records, statements of course completion, references, transcripts etc. – is submitted. In most cases, providing all relevant documentation is available, credit approval is automatically finalised at enrolment or shortly thereafter. For details on Advanced Standing refer to the website: www.swin.edu.au/corporate/registrar/credit/

Application procedure

Full-time: First year
Applications for entry to full-time study at the first year level must be made through the Victorian Tertiary Admissions Centre (VTAC), 40 Park Street, South Melbourne 3205.

Students studying VCE in 2001
2001 VCE students apply for courses listed in the VTAC Guide on the VTAC Infoline. Students should consult the VTAC publication Guide to University and TAFE Courses.

All other applicants
All other applicants should use Form E to apply for courses. Copies of the form, and the Guide to University and TAFE Courses in which it is enclosed, are obtainable from VTAC.

Alternative Entry Category (for applicants without VCE or equivalent)
Applications for all Higher Education full-time courses must be made to VTAC. Applicants for some courses may be required to attend an interview or sit an aptitude test.

Special Entry Category
Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and normally have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed. However, Engineering and Applied Science applicants must have passed the subject prerequisites.

Full-time: Second year and higher
Applications for Applied Science, Arts, Business, Social Science and Tourism courses should be made to VTAC, 40 Park Street, South Melbourne 3205. Applications for Engineering should be made directly to Swinburne. Forms can be obtained from the Admissions Officer on (03) 9214 8386.

Part-time
Applications for admission to listed part-time Arts, Business, Social Science and Tourism courses must be made through VTAC. All applications for part-time Engineering courses must be made directly to Swinburne. Application forms are obtained from the Admissions Officer on (03) 9214 8386. Part-time places are not offered in Applied Science or the Swinburne National School of Design.

International students
Applications by international students for entry to all Swinburne courses must be made through the International Student Unit. Because of Australian government regulations, part-time study is not available to full-fee paying international students. Telephone: (03) 9214 8151 or (03) 9214 8647.

Assessment
Assessment of student performance is carried out in accordance with Assessment and Appeals Procedures (see the Higher Education Student Guide 2002).

Student performance is assessed by various methods, such as formal examinations, tests held during the semester, project work, assignments and laboratory reports. A statement of the workload requirements and the assessment program for each subject is given to all students by the second week of each semester.

Enrolment
Enrolment at Swinburne University of Technology is conditional upon:

- The information which is supplied by the applicant to the University, upon which an offer of a place in a course is based, being accurate and complete.
- The approval of the head of the awarding school (or his/her nominee) of the subjects concerned.
- The completion of the requisite enrolment and statistical information forms required by the University.
- The undertaking of the student to abide by the statutes, regulations, policies and procedures and standards of conduct of Swinburne University of Technology.
- The payment of any prescribed general service fee.
- The lodging of a Payment Options form in regard to the Higher Education Contribution Scheme (HECS) and, if appropriate, making an ‘up front’ payment.

Amendment to enrolment
Students wishing to amend the subjects in which they are enrolled must complete and lodge with the appropriate division/school an amendment to enrolment form. Students withdrawing from a subject must lodge their form by 31 March (first semester) and 31 August (second semester). Students wanting to add a subject/s must lodge their form by the end of the first week of the appropriate semester.

Deferred entry
Students who are offered a place in a first year undergraduate program for 2002 may apply for a deferment until 2003. Applications must be addressed to the School Administration Manager, and must be made at the time an offer is received. Deferment is not automatic. Students who have been granted deferment will be informed in writing. The Deferment Procedures policy can be found under Leave of Absence in the Higher Education Student Guide 2002.

Single subject enrolments
Under the conditions set out below, it is possible to study single subjects offered by the University without enrolling in a full degree or diploma course. The minimum fee per semester for single subject (non-credit) enrolments in 2002 will be at the rate per weekly contact hour as set by the individual school, plus the appropriate general service fee.

The offering of places in single subjects is at the discretion of the School concerned and can be done only after full credit students have been accommodated. Offers may therefore be as late as the first week of teaching. An application form is available from the Division or School Office concerned, or the Admissions Officer.

Cross-Institutional Students
Cross-institutional enrolment is available to students enrolled at any Victorian university who may wish to enrol in a subject/s at another Victorian university. Application for cross-institutional enrolment is made by submitting the application, in the first instance, to the ‘home’ university for approval.

Entrance requirements
The general criterion for consideration for entry to a Swinburne course is Swinburne’s assessment of an applicant’s ability to complete a chosen course.
1. To satisfy the general entrance requirements and to be considered for admission to the first year of a degree or diploma course a student must have satisfactorily completed the VCE including the satisfactory completion of the work requirements in Units 3 and 4 of English.

Any person offered a place at Swinburne may be required to present for a proficiency test in the English language. Applicants found to be below the necessary standard in this test may be required to undertake a remedial English course concurrently with their undergraduate course or may have their provisional offer of a place withdrawn.

2. In addition to meeting the general requirements above, applicants must also satisfy any prerequisite or special requirements specified by the University and listed in the Handbook.

3. The University may specify criteria for special entry schemes, covering applicants who may not hold the necessary formal entry qualifications but who, in the course selection officer's view, have the motivation and potential to successfully complete the course concerned.

Other qualifications
Applicants must have a qualification deemed to be the equivalent of VCE by the Victorian Board of Studies. Such qualifications may include interstate and overseas qualifications and Associate Diploma studies at a TAFE institution unless entering through a special entry scheme. International Baccalaureate students meet minimum tertiary entrance requirements if they satisfy the requirements for the award of the Diploma.

Applicants holding one completed year of a Victorian TAFE Associate Diploma, Certificate IV or Advanced Certificate qualification will satisfy minimum tertiary entrance requirements in 2002.

Special Entry Schemes
Swinburne's Special Entry Schemes enable applicants with no VCE or equivalent qualification to be considered for acceptance into undergraduate courses.

Age and Education
There are no age restrictions. This category is for applicants with no VCE or equivalent. Selection is based on the personal history provided with the application for all courses except Business, which requires applicants to sit the Special Admissions Test administered by VTAC for the Australian Council for Educational Research.

Continuing Difficulties During Schooling, Applicants with Disabilities, Aborigines and Torres Strait Islanders
Applicants in these categories may provide additional information with their application form and contact the Swinburne Equity Unit for further assistance. Applicants who have passed VCE may also provide additional information with their applications. In all cases, applicants for courses offered by Engineering and Science must have passed the course prerequisites.

Fees
The General Service Fee is applied to the provision of amenities and services by the University. It does not confer membership of the Swinburne Student Union or any other student organisation.

All enrolling students are required to pay a general service fee. These fees vary according to whether part-time, full-time or IBL/Distance Learning is being undertaken and they will include GST. The fees for 2002 are:

<table>
<thead>
<tr>
<th>Student Status</th>
<th>Total GSF $ (Inc GST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time, full year</td>
<td>276.00</td>
</tr>
<tr>
<td>Part-time, full year</td>
<td>138.00</td>
</tr>
<tr>
<td>Industry-based Learning/Distance Education: full-time</td>
<td>56.00</td>
</tr>
</tbody>
</table>

International students
Full-fee paying international students do not pay HECS fees. Students must ensure that they read a copy of the International Student Regulations and Tuition Fee Policy brochure. Please contact the International Student Unit for information on fees applicable to international students.

Dual award students
Dual award involves study components offered by Higher Education and the TAFE Divisions. The Higher Education School/Division involved in the course will be responsible for administering the course. Selection is conducted by the administering School/Division in consultation with all of the Schools/Divisions involved in the course.

Other costs
If you are successful in your application you will also need to purchase books, stationery and other essential equipment. Some courses require you to purchase and wear special clothing. Applicants for art, design or photography courses in particular should enquire about such costs with the institutions concerned. Accommodation and transport costs may also be substantial.

Industry-based Learning
Students studying under the Industry-based Learning (cooperative) format are considered to be full-time students. They qualify for the special rate only in those years which include work experience. These courses are:

- Applied Science Degree
- Business Degree
- Graphic/Industrial Design Degrees
- Engineering Degree

Additional fees
A part-time student who adds any subject to those for which he or she was enrolled and thereby increases the course load involved in his or her course to more than seventy-five per cent of the full-time course load will be required to pay the difference between the part-time and the full-time general service fee.

Refund of fees
A student who withdraws from a course may receive a refund of fees, if notice of withdrawal is lodged at the School Office before 31 March 2002 for Semester one and 31 August 2002 for Semester two.

Higher Education Contribution Scheme (HECS)
The Higher Education Contribution Scheme (sometimes referred to as the graduate tax) came into effect on 1 January 1989. Unless exempt from the provisions of the Scheme, all students enrolled in the Higher Education Division have to make a contribution to the cost of their studies.

Students commencing Higher Education studies for the first time after 1 January 1997 are liable to pay HECS contributions at ‘Differential HECS’ rates. This means that HECS contribution charges will vary according to the subjects in which you enrol.

HECS payment options
Students have the option of:

(i) Paying the contribution on an ‘Upfront’ basis (i.e. a lump sum payment attracting a 25% discount); or
(ii) Paying the contribution on an ‘Upfront’ basis and authorising the ‘Safety Net for Upfront’ option (Swinburne will automatically convert the student status to the ‘Deferred’ option should the lump sum payment not be received by Census date); or
(iii) Paying the contribution on a ‘Deferred’ basis through the taxation system; or
(iv) Making one partial payment ‘Upfront’ (minimum $500) and having the balance collected via the taxation system. Partial payments will attract a discount. If permission is given to make more than one partial payment a handling fee may be charged.

Tax File Numbers
All students selecting (iii) ‘Upfront with the Safety Net’ or (iii) ‘Deferred’ options must provide their Tax File Number to the University at the time of their enrolment. Students who do not have a Tax File Number must apply to the Australian Tax Office before enrolment and submit their Tax File Number to the University before the census date. Failure to provide the University with a Tax File Number will result in cancellation of enrolment.

Change of HECS Payment Option
Students have an opportunity of changing their option by completing a new Payment Options form before the census date for each semester. If a new form, notifying a change of option, is not received by the HECS Officer, the student's HECS status remains unchanged and carries over into the following semester. Census dates:
Industry-based Learning

Industry-based Learning (IBL) is a major feature of many of the academic programs at Swinburne. This cooperative education program is strongly supported throughout the Higher Education sector and is one of the significant illustrations of the many contacts that the University has with industry that benefit the student, industry and the University. Cooperative education is a strategy of learning that involves the student participating in a paid placement in industry before the final year of their degree. The student receives support during the placement from both the employer and the University.

Whilst on IBL, students are supervised by their employers and a member of the Higher Education Division’s academic staff who acts as the student’s industrial tutor.

The placements provide students with the valuable opportunity to apply the knowledge they have gained to that point while gaining confidence and experience in the workplace of their future profession. Students then have this “hands-on” experience as a most significant reference in their final year of study. The experience places students at the front of the line for employment opportunities at the end of their degree.

At Swinburne IBL is generally optional and is normally taken for two semesters (or the end of their degree). The placements provide students with the valuable opportunity to apply the knowledge they have gained to that point while gaining confidence and experience in the workplace of their future profession. Students then have this “hands-on” experience as a most significant reference in their final year of study. The experience places students at the front of the line for employment opportunities at the end of their degree.

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Further details about the Scheme are available from the Student Administration Enquiries Office or by contacting the HECS Officer on (03) 9214 8692.

HECS liability

Students who withdraw from subjects or total enrolment after 31 March 2002 for subjects concluding at the end of the first semester or after 31 August 2002 for subjects concluding at the end of the second semester, will incur a HECS liability for that semester.

Students who withdraw from a full-year subject after 31 March 2002 will incur a HECS liability for semester 1. Students who withdraw from a full-year subject after 31 August 2002 will incur a HECS liability for two semesters.

HECS Exemption categories

Students exempt from the Scheme include:

- Those who have paid fees to the University for a postgraduate course in accordance with Commonwealth guidelines.
- Those enrolled in a non-award course.
- Those fully sponsored under a foreign aid program.
- Full-fee paying students.
- Student otherwise subject to Overseas Student Charge arrangements;
- Holders of a HECS postgraduate scholarship.
- Holders of an undergraduate equity scholarship.
- Those enrolled in a non-award single subject course excluding overseas students.

Further details about the Scheme are available from the Student Administration Enquiries Office or by contacting the HECS Officer on (03) 9214 8692.

HECS refunds

HECS refunds will be made to ‘Upfront’ payees where a student withdraws from the course on or before 31 March for semester one and 31 August for semester two. Students who require a refund must apply to their Division or School Administration Office. A copy of the receipt must be provided.

HECS Exemption Scholarships (Undergraduate)

In 2002 the Commonwealth government will provide a small number of merit-based equity scholarships to help people with special needs undertake university study. These scholarships are administered by the University Equity Office. Further information can be obtained by contacting the Equity Office on (03) 9214 8751.

Part-time study

With changes in the programs of study leading to degree qualifications, some part-time students may be unsure of the subjects they are required to pass in order to qualify for an award.

The following guidelines which the relevant School Board has established should be used to determine the subject requirements for students undertaking programs (including conversion programs) on a part-time basis:

- In general, students who have not at some time discontinued their program without permission will follow the program of study in operation at the time of their initial enrolment if this program is still available in the Higher Education Division of the University and as specified in the appropriate section of the Handbook for that year.
- Despite the above, students who are undertaking a program of study which has been unduly prolonged, or who would benefit from transfer to a later program of study, may be transferred by the school board on the advice of the head of the student’s school.
- Students who discontinue study without permission and who later wish to renew their enrolment in the Higher Education Division of the University in that same program will be treated as new students. They may receive such credit for the subjects previously passed as is determined by the school board on the advice of the head of the student’s school.
- Where subjects have been discontinued since students’ initial enrolment, students will be required to undertake the presently operating equivalent subjects. Information regarding superseded subject equivalents is available from the head of the student’s school.
- As students will realise, there is often benefit in transferring from the program of study in operation at the time of enrolment to a later program of study. With the permission of the head of the student’s school, students may transfer from the program of study for which they are enrolled to a later program of study but should recognise that such a transfer may involve the undertaking of some additional subjects.

<table>
<thead>
<tr>
<th>Area</th>
<th>IBL Coordinator</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry and Biochemistry</td>
<td>Bob Laslett</td>
<td>(03) 9214 8569</td>
</tr>
<tr>
<td>Multimedia, Medical Biophysics and Instrumentation</td>
<td>Doug McKenzie</td>
<td>(03) 9214 8753</td>
</tr>
<tr>
<td>Business</td>
<td>Jenny Baldwin</td>
<td>(03) 9214 5479</td>
</tr>
</tbody>
</table>
Pathways: Articulation and Credit Transfer

The Swinburne Pathways Program has been designed to ensure that students who are interested in continuing their formal education gain as much benefit as possible out of studies already done. The development of Pathways has made it easier than ever before to move between courses offered by TAFE and by Higher Education.

Whether you are coming from school, from Swinburne TAFE, from another TAFE Institute or from another university, credit transfer pathways are in place to help you apply your education into the right course at the right level. The credit transfer arrangements guarantee you maximum flexibility and maximum choice.

Detailed information on the extent of credit transfer and specific additional requirements which would attract maximum credit is contained on the website: www.swin.edu.au/corporate/registrar/credit/welcome.htm

Prizes and scholarships

There are numerous prizes and scholarships handed out to students and graduates throughout the year. The Schools provide many of these to outstanding final year students, and others are provided by corporate donors. Additionally there are a number of scholarships being offered to full-time students commencing their first year of study in Semester One, 2002. Details of these scholarships and prizes can be found at www.swin.edu.au/hed/scholarships/ or in the Higher Education Student Guide 2002.

A number of different research scholarships are available. Contact the Swinburne Graduate Research School for details. Website: www.swin.edu.au/research/f-schols.htm

Reading guides

In most subjects, conveners will issue detailed reading guides during the first week of classes. Recommended reading and textbooks: students are advised not to purchase any books until classes have met. References: material referred to throughout the duration of the subject. Students are not required to purchase references and copies of the majority are available for borrowing from the library.

Recognition of Prior Learning

Recognition of Prior Learning (RPL) is the process by which your prior work history, life experience and previous study is measured against the course you are undertaking. Applicants will be considered on their individual merits in accordance with Swinburne policies. The policy on RPL can be found at: www.swin.edu.au/hed/scholarships/ or in the Higher Education Student Guide 2002.

Standards of progress

All full-time and part-time students enrolled in undergraduate courses at Swinburne are expected to maintain a minimum academic standard to be allowed to continue their studies. See Assessment and Appeals Procedures in the Higher Education Student Guide 2002.

Full-time students in the Higher Education Division (Hawthorn/Prahran) must complete their degree program within six years of their first enrolment in the course (excluding any periods of leave of absence). Part-time students must complete their degree program within nine years of their first enrolment in the course (excluding any periods of leave of absence).

The maximum time for completion of a degree at Swinburne at Lilydale is ten years.

Student Administration Enquiries Office

The Student Administration Enquiries Office provides information and procedural advice on admissions, examinations and awards. Other functions include processing identity cards, production of passport photos, providing enrolment processing forms (e.g. amendment to enrolment form), result certificates, academic statements, enrolment status letters, authorising travel concession forms and international student card forms, certifying University documents, maintenance of students’ result records, hire of lockers and academic gowns.

Location and office hours

Hawthorn campus

Enquiries (03) 9214 8088, (03) 9214 8039

The Student Administration Enquiries Office is located in Room AD121, Administration Building (AD), John Street, opposite the Business and Arts Building (BA) and the Library. Office hours are as follows:

First Semester
8.00am - 5.00pm Monday to Friday
The ID camera station will remain open after hours Monday to Thursdays from late January 2002 until late March 2002, and close at 5.00pm on Fridays.

Second Semester until 16 August
8.00am - 6.00pm Monday to Thursday
8.00am - 6.00pm Friday

From August 16
8.00am - 6.00pm Monday to Friday
Note: The office is closed on public holidays.

Prahran campus

Enquiries (03) 9214 6744 or (03) 9214 6781
Room D107, Building D, High Street, Prahran
Office hours are as follows:
8.30am - 5.00pm Monday to Friday
Note: The office is closed on public holidays.

Swinburne, Lilydale campus

Enquiries (03) 9215 7000
Office hours are as follows:
8.30am - 6.00pm Monday to Thursday
8.30am - 5.00pm Friday
Note: The office is closed on public holidays.

Student workload and credit point system

The Higher Education Division operates a student workload model based on a credit point system. In this model, the standard workload for a full-time student undertaking a program of study for one year comprises subjects with a total value of 100 credit points. To complete, for example, a full-time three-year bachelor degree program, a student must pass subjects to the value of at least 300 credit points.

The credit point value of a subject is a notional measure of the relative workload associated with that subject. Normally, a full-time student enrolls in subjects totalling fifty credit points per semester. However, small variations in this total are permitted according to the choice and availability of elective subjects.

Summer Semester

Summer semester is available to students who wish to study subjects outside the normal semester period. Summer semester allows students to fast track their course of study, repeat failed subjects, or study a Swinburne subject which is not offered at their home institution.

The Summer semester program is available to local Swinburne students, International Swinburne students, other tertiary students (both local and international) and the general public. For further information refer to: www.swin.edu.au/summer/

Youth Allowance/Austudy

Generally Youth Allowance/Austudy provides financial help, on an income and asset test basis, to students who are studying approved secondary or tertiary programs. Application forms and information can be obtained from all Centrelink offices and from the University’s Housing, Part-time Employment, and Finance Office.

Students applying for Youth Allowance/Austudy are required to provide details of their HECS load as calculated by Swinburne. The Confirmation of Enrolment provided to each enrolling and re-enrolling student gives details of this HECS load. Enquiries should be directed to the appropriate School Office.

Students should submit a new calculation of the HECS load (which will be provided by the Division) if their load changes after any Amendment to Enrolment. Students should be aware that a change from full-time to part-time status may affect their Youth Allowance/Austudy entitlement.
Higher Education Division  
(Hawthorn/Prahran)

BUSINESS, INNOVATION and MANAGEMENT

A055 Bachelor of Business  
VTAC code: 34411 (F/T), 34701 (P/T), 34413 (Int. Fee)  
2001 Clearly-in ENTER: 85.0

The Bachelor of Business equips students with a diverse range of theoretical knowledge and practical skills to prepare them for the demands of tomorrow's business world. Key features of this degree are the ability to integrate a wide range of business, information technology, arts and social science subjects, the opportunity to undertake the Industry-based Learning (or work experience) program and/or travel overseas on international student exchanges or overseas study tours.

The Bachelor of Business is a vocationally oriented course designed to assist in the intellectual, social and personal development of the student as preparation for entry to a range of specialist and generalist business professions. The program prepares students for a career in business, whether domestic or international, recognising that business in the 21st Century is global. It also produces educationally rounded people, capable of taking their place in their chosen professions and their community.

Swinburne takes particular pride in producing business graduates who are employment-ready, of immediate practical relevance to their employers and capable of excellent career development from a strong commencing base. Along with this knowledge and skills development, the program deliberately takes on an entrepreneurial 'flavour' throughout its entirety. Graduates will have the basic capacity, attributes and ‘mindset’ to consider creating their own enterprises from the time of graduation, or at some future point in their career. They will therefore be well prepared to either seek professional entry as an employee in their chosen field of specialisation or to grasp innovative business opportunities to employ themselves and others.

Aims & Objectives

The objectives are achieved by:

- Ensuring that the body of knowledge and technology imparted in the course will be relevant to immediate and potential employment opportunities.
- Developing self confidence through a learning experience aimed at an understanding of the subject areas and including the development of life-long learning skills.
- Offering industry based learning (IBL) opportunities which rapidly link theoretical learning with applied practical work experience.
- Developing creativity and analytical skills.
- Providing an understanding of the conventional ways of seeking answers to particular problems, including use of library and other reference sources such as modern internet and electronic information sources.
- Developing multidisciplinary applied research skills through the honours year option.
- Developing both written and oral communication skills, and team work capacities.
- Developing perspective and general knowledge by a study of a variety of disciplines and of their relationship to one another, forming an integrated, holistic business understanding.
- Developing an ability and willingness to adapt to change, given the turbulent, competitive and volatile nature of many businesses.
- Developing a broad understanding of the business and social environment, especially its global and complex nature.
- Developing skills and attitudes conducive to lifelong learning.

The following strategies are used in the delivery of the Bachelor of Business to achieve the generic skills described in the course objectives:

- Assessment and workload expectations encourage students to be self directed.
- Many assignments rely on peer assisted learning for successful completion.
- Current research projects in many subjects require students to seek out active businesses as case studies for their completion.

The course leading to the award of Bachelor of Business offers major, minor and elective studies. The following Business specific major/minors are available:

- Accounting*
- Asian Business#
- Business Law#
- Economics#
- eMarketing#
- European Business#
- Finance*
- Human Resource Management/Organisation Behaviour*
- Information Systems*
- International Business*
- Management*
- Manufacturing Management*
- Marketing*
- Bachelor of Business students are required to undertake a major study sequence in at least one of these subject areas.

# Available as minor area of study only

The following majors/minors are available from Arts:

- Asian studies
- Australian studies
- Cultural studies
- Electronic Society
- European studies
- Italian
- Japanese
- Literature
- Media studies
- Philosophy and Cultural Inquiry
- Political studies
- Psychology
- Sociology

Key features of the Business specific major streams are described in the Business Specialisations section.

Campus

Hawthorn

Career opportunities

Accountancy, advertising, business management, computer programming, financial advice, human resources, market research, public relations, systems analysis. For specific career opportunities, refer to the individual Business Specialisation entries.

Professional recognition

The following professional recognition applies to studies in the Bachelor of Business. To be eligible for membership of the various professional associations, students must complete the following requirements:

Australian Computer Society (ACS)

Students requiring ACS accreditation should complete the following students:

- HIT1025 Introduction to Information Systems (core)
- HIT1009 Business Programming 1
- HIT2010 Business Programming 2
- HIT2016 Database 1
- HIT2049 Systems Analysis and Design
- HIT3044 Professional Issues in Information Technology

Plus four of the following:

- HIT3010 Component Base Development
- HIT3017 Database 2
- HIT3018 Database 3
HIT3034 Information Systems Project
HIT3036 Information Technology Strategies
HIT3084 Electronic Commerce: A Business Perspective
HIT3085 eCommerce Systems Infrastructure

Australian Human Resources Institute (AHRI)
To be eligible for associate membership of AHRI graduates must have completed the following post-core subjects:
HBB220 Organisation Behaviour: Diversity & Change
HBB221 Introduction to Human Resource Management
HBB222 Organisation Design, Technology and Change
HBB224 Legal Aspects of Human Resource Management
HBB330 Dynamics of Group & Organisational Behaviour
HBB332 International Human Resource Management
HBB334 Managing Workplace Relations
HBB341 Strategic Human Resource Management

CPA Australia (CPAA) and the Institute of Chartered Accountants in Australia (ICAA)
To be eligible for associate membership of the CPAA or entry to the CA Program of the ICAA, graduates must have completed the following core business subjects and post-core subjects:
HBC110 Accounting for Success
HBL111 Law in Global Business
HMB110 /111 Quantitative Analysis A/B
HBE110 Microeconomics
HBB110 Organisations & Management
HIT1025 Introduction to Information Systems
HBB220 Financial Information Systems
HBB221 Corporate Accounting
HBB222 Management Decision Making
HBB223 Analysis for Competitive Advantage
HBB224 Financial Management
HBB225 Auditing
HBB330 Current Issues in Accounting
HBB331 Taxation Issues and Planning
HBB220 Macroeconomics
HBL220 Contract Law
HBL221 Company Law

Students seeking advanced standing for studies undertaken outside Australia are advised that credit granted by the University may not, in all cases, be recognised by the CPAA. The CPAA does provide guidelines and individual advice regarding recognition of advanced standing. Students should contact the CPAA directly regarding recognition of exemptions based on studies undertaken outside Australia.

Australian Institute of Banking and Finance
The Australian Institute of Banking and Finance accepts the Bachelor of Business degree as an approved degree for the purpose of Affiliate membership of the Institute. Affiliate membership is a transitional level leading to Senior Associate status. An Affiliate member is required to undertake specialist banking subjects to complete the educational requirements for Senior Associate status. Student membership of the Australian Institute of Banking and Finance is open to all full-time students undertaking the Bachelor of Business degree. Additional requirements for these specialisations are as follows:

Institute of Corporate Managers, Secretaries and Administrators
Completion of the Bachelor of Business fulfills the educational requirements for associate membership of the Institute of Corporate Managers, Secretaries and Administrators.

Course duration
Three years full-time or six years part-time. An optional and additional year of Industry-based Learning (IBL) is also available.

Structure
Students undertake a total of twenty-four subjects, consisting of the business core of seven subjects, and a combination of majors, minors and electives. A major consists of six post-core subjects (at least two at Stage 3) from one specialisation. A minor consists of four post-core subjects (at least one at Stage 3) from one specialisation. Students may complete a combination of majors, minors and electives to fulfil the degree requirements however, at least one major from the Business specific majors listed above must be completed. The above formula for majors and minors in the Bachelor of Business applies to all Business specific streams except where specific requirements are specified under individual majors of study information outlined in the Business Specialisation section below. These major/minor formulas also apply to Arts majors studied as part of a Bachelor of Business except in the case of Italian, Japanese and Psychology. The requirements for these specialisations are as follows:

A minor in Psychology consists of HAY100, HAY101, HMA278, HAY206, and HAY205 or HAY207 (or equivalent) with no Stage 3 requirement.

The major in Psychology follows the standard formula with a requirement of at least two Stage 3 subjects.

A language major in Japanese:
Beginners Stream consists of the following eight subjects: HAJ107, HAJ108, HAJ109, HAJ215, HAJ217, HAJ218, HAJ318 & HBJ341.

Advanced Stream consists of the following seven subjects: HAJ131, HAJ132, HAJ133, HAJ231, HAJ232, HAJ233, HAJ234 & HAJ331.

A minor in Japanese:
Beginners Stream consists of five of the following subjects: HAJ107, HAJ108, HAJ109, HAJ215, HAJ217 and HAJ218 or HAJ202.

Advanced Stream consists of the following subjects: HAJ131, HAJ132, HAJ133, HAJ231, HAJ232 & HAJ202.

A language major in Italian:
Beginners Stream consists of the following seven subjects: HAA181, HAA182, HAA119, HAA201, plus one of HAA202, or HAA203 and HAA377 plus one of HAA387 or HAA388.

Advanced Stream consists of the following seven subjects: HAA181, HAA182, HAA119, HAA204, plus one of HAA205, or HAA206, HAA377, plus one of HAA388 and HAA387.

A minor in Italian: Beginners Stream Italian consists of the following five subjects: HAA181, HAA182, HAA119, HAA281 or HAA283 and HAA377.

A minor in: Advanced Stream Italian consists of the following 5 subjects. HAA184, HAA182, HAA119, HAA284 or HAA285, and HAA377.

Students wishing to enrol in subjects which are not a formal part of this course will be required to seek approval from the School Administration Manager prior to enrolment.

Course restrictions
Students should note the following restrictions:
- A maximum of twelve subjects from any discipline (e.g. Accounting - “HBC”, Marketing - “HBM” subject code prefix).
- A maximum of ten Stage 1 subjects (e.g. HBM110 - Stage 1 subjects have a 1 immediately following the three-letter code).
- A minimum of four Stage 3 subjects (e.g. HBC330 - Stage 3 subjects have a 3 immediately following the three-letter code).
- Unmatched exemptions can only be used as electives and do not fulfill Stage 3 subject course requirements.
- The subject HAI118 Academic Communication Skills cannot be used for credits towards the Bachelor of Business.
• A subject can only be counted once as part of a major or minor or as an elective - one subject cannot be counted twice (e.g. the subject HBM222 may be counted towards either a Management or Marketing major, but not both).

• Students are not permitted to enrol in subjects where they have completed another subject that is deemed to be equivalent.

• HBI300 Industry Placement cannot be used for credit towards the Bachelor of Business.

• Students will be allowed to study a maximum of twenty-six subjects as part of a Bachelor of Business.

**Stage 3 subjects—Honours Stream Option**

Each semester a limited number of Stage 3 subjects are offered by the School of Business to students as an Honours stream option. These subjects provide students with the challenge and an opportunity to develop a deeper understanding of the subject matter, and to develop research skills by completing research based assessment tasks.

To enrol students are required to have achieved a credit grade average in the discipline subjects studied to date and gain approval from the subject convenor. Students enrolled in Honours stream subjects will have codes appended with an H and the words (Honours stream) to reflect the higher academic content and requirements. The Honours Stream option is highly recommended for students considering enrolment in the Bachelor of Business (Honours) course upon completion of the degree.

**Special course of study for students who have completed an Advanced Diploma in Business**

Students enrolled in the Bachelor of Business who have completed an approved Advanced Diploma or Diploma in Business or equivalent must complete all the normal requirements for the course except they are only required to complete four of the seven business core subjects (which may include matched subject credits). However, all business core subjects required as a prerequisite for later Stage subjects selected for study must be completed.

The seven business core subjects are:

- HBC110 Accounting for Success
- HBE110 Microeconomics
- HBH110 Organisations and Management
- HBL111 Law in Global Business
- HBM110 The Marketing Concept
- HIT1025 Introduction to Information Systems
- HMB110 Quantitative Analysis A OR
- HMB111 Quantitative Analysis B

**Prerequisites/Corequisites**

Students must have passed prerequisites/corequisites listed for each subject and must check that they have fulfilled these requirements before enrolling. Subject convenors must be consulted if students wish to enrol in a subject for which they do not have the stated requisite.

**Industry-based Learning (IBL)**

The Bachelor of Business includes an optional Industry-based Learning segment, in which students are placed in paid, supervised employment as part of their degree course. Students require a credit grade average for acceptance into the IBL program. Whilst enrolment in the Industrial Project completed as part of Industry-based Learning is not for credit, it gives eligible students invaluable practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All Industry-based Learning placements are subject to availability and require suitable English language skills.

**Entry requirements**

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 and 4 - a study score of at least 25 in English (any).

Advanced Diploma holders: minimum requirement - Credit Grade average, 65% with no fails in the final year. In the first instance preference will be given to Advanced Diploma holders who have a Distinction Grade average, 75% or above with no fail grades in the final year. Followed by Advanced Diploma holders who have a Grade average midway between Credit and Distinction, 70% or above with no fail grades in the final year. Followed by applications who have completed the equivalent of at least 3 full-time semesters towards the Advanced Diploma who have a Distinction Grade average, 75% or above with no fail grades. Followed by Advanced Diploma holders who have a Credit Grade average, 65% or above with no fail grades in the final year.

Diploma holders will only be considered for selection if a minimum of 50% of grades achieved are Distinctions, 75% or above with no fails, and places are available. Certificate IV (post year twelve qualifications) will only be considered for selection if a minimum of 75 percent of grades achieved are Distinctions, 75% or above, with no fails, and places are available.

Note: Associate Diploma holders should refer to the above requirements for Advanced Diploma holders.

Applicants with partially completed tertiary qualifications (at least one year of equivalent full-time study): minimum requirement - Credit Grade average, 65% or above with no fails.

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and who have not satisfied minimum tertiary entrance requirements, providing they have not been in full-time secondary school for at least two years, or applicants who have a non-competitive entry requirement that has been completed a minimum of two years prior to time of application for the course, must apply through VTAC (both full and part-time) and register with VTAC to sit the Special Tertiary Admissions Test (STAT - Multiple Choice). STAT registration fee is payable to VTAC.

Not all eligible applicants can be offered a place, as quotas apply.

**Application procedure**

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

**Further information**

Contact the School of Business

Telephone: +61 3 9214 5046
Fax: 61 3 9819 2117
Email: busheh@swin.edu.au

**BUSINESS MAJORS/MINORS**

**Accounting**

Accounting is the basic language of business. The accounting subjects offered by the School of Business cover many different aspects of contemporary business activities. The overall emphasis is on providing information and analytical tools which improve the decision making process throughout the organisation.

Stage 1 accounting gives students an overview of accounting from a user’s perspective: how to read and analyse accounting reports. Accounting information is an important basis on which many decisions in all areas of business are made.

Stage 2 subjects introduce both the process of creating accounting reports and developing other accounting information for decision making. Students learn to use a variety of analytical tools and record processing. Subjects cover a range of areas, from accounting as a business information system, to developing information to assist the marketing, purchasing, production and administrative functions, through to financial management of the firm.

In Stage 3 subjects may be taken which provide students with additional analytical tools, used in decision making in a wide variety of business problems. In addition, further specialist subjects in tax, financial reporting and personal investment may be studied.

Some accounting subjects may be counted towards an accounting major or minor, or towards a finance major or minor (but not included in both). Some students will undertake accounting studies as an essential adjunct to a career in business. An accounting background is of great benefit to those seeking careers in general management. Other students may wish to pursue a career in accounting: choosing the appropriate combination of subjects will allow them to become members of professional accounting bodies, CPA Australia and the Institute of Chartered Accountants in Australia. Swinburne accounting qualifications are recognised both in Australia and overseas.

**Career opportunities**

Students with accounting majors or minors find rewarding work in industry, commerce, the public sector, the financial industry or business consulting. Students who undertake a course leading to professional accounting qualifications may work in any of these areas and in addition may work in public accounting.
Structure

An Accounting major consists of six post-core subjects, at least two of which must be at Stage 3. A minor in Accounting consists of four post-core subjects, at least one of which is at Stage 3.

Course subjects

Stage 1 (core subject)
HBC110 Accounting for Success (A)

Stage 2
HBC220 Financial Information Systems (A)
HBC221 Corporate Accounting (A)
HBC222 Management Decision Making (A)
HBC223 Analysis for Competitive Accounting (A)
HBC224 Financial Management (A)
HBC225 Auditing (A)
HBC230 Personal Investment

Stage 3
HBC330 Current Issues in Accounting (A)
HBC331 Taxation Issues and Planning (A)
HBC339 Financial Risk Management

Note: (A) Mandatory subjects for professional recognition by CPA Australia or ICAA

Further information

Contact the School of Business on +61 3 9214 5046

Asian Business

The minor in Asian Business focuses on one of the vital regions of the world. It will give students an understanding of the Asian economic miracle, the Asian financial crisis and the restructuring of Asian economics. It will equip students with a variety of skills useful for doing business in Asia, including insights regarding marketing law, business practices, culture and language.

Career opportunities

The Asian Business major is designed to complement other majors, including International Business, Accounting, Finance, Marketing, Human Resource Management, Information Technology and Japanese.

Structure

Asian Business is available as a minor only. Students wishing to complete a minor in Asian Business will need to select four post-core subjects from the subjects listed, at least one of which is at Stage 3.

Course subjects

Stage 1 (core subject)
HBL111 Law in Global Business (A)

Stage 2
HBL220 Contract Law (A)
HBL221 Company Law (A)
HBL222 Marketing Law

Stage 3
HBL342 International Investment and Development
HBL331 International Business Law
HBL333 Finance Law

Note: (A) Mandatory subjects for professional recognition by CPA Australia or ICAA

Further information

Contact the School of Business on +61 3 9214 5046

Economics

Understanding economics is a fundamental requirement for a career in business. An economic approach to important social and business problems forms the focus of the economics minor.

Stage 1 provides an introduction to the way in which Economists approach their field of study. It covers a broad range of topics, including the benefits of specialisation and trade, the operation of markets, the behaviour of business firms under different competitive circumstances, the impact of taxes on goods and services, and the economics of the environment.

Stage 2 allows students to focus on macroeconomic issues such as understanding and interpreting key indicators, the determinants of economic activity, business cycles and financial markets.

Stage 3 provides insight into a number of specific areas in economics, such as international trade, international business, international finance and financial institutions and monetary policy.

Career opportunities

Students completing an economics minor find employment in a wide range of challenging fields. These include administration in both public and private sectors, management consulting, banking, economic policy evaluation and financial analysis.

Structure

Economics is available as a minor only. A minor sequence consists of HBE220 Macroeconomics and three post-core subjects, at least one of which is at Stage 3.
Course subjects

**Stage 1 (core subject)**

- HBE110 Microeconomics (A)

**Stage 2**

- HBE220 Macroeconomics (A/E)
- HBE228 Banking and Financial Markets
- HBE231 Foundations of International Business

**Stage 3**

- HBE333 Financial Institutions and Monetary Policy
- HBE335 International Finance
- HBE340 International Trade Strategies

Note:

(A) Mandatory subjects for professional recognition by CPA Australia or ICAA
(E) Mandatory subject for Economics and Finance majors/minors.

Further information

Contact the School of Business on +61 3 9214 5046

eMarketing

The Internet is revolutionising business conduct: the study and practice of marketing is changing rapidly, due to the commercialisation of the World Wide Web. Issues addressed in e-commerce subjects include the way end-to-end enterprise-wide technologies are changing the way business is conducted, the development of sophisticated methods of customer data management, with corresponding improvements in business efficiency and potential customer satisfaction. The opportunities now available to small-and-medium sized enterprises (SMEs), retailers, international marketers, product developers and researchers, which take on an entirely new perspective when viewed from ‘cyberspace’, are also covered. The fundamental drivers of cybercommerce are investigated, and the implications of this understanding will be used to develop strategies for managing the business of the future in a profitable, ethical and effective way.

Career opportunities

It is clearly important that future business owners and employees understand the Internet and its profound impact on commerce. Existing businesses are moving online to protect existing markets and expand into new ones, and new Internet businesses are being born daily. There are great opportunities for employment or entrepreneurial activity in this exciting new business field, and managers of non-Internet businesses of the future will also benefit from a thorough understanding of electronic marketing.

Structure

eMarketing is available as a minor only. Students are required to complete the four subjects listed.

Course subjects

**Stage 2**

- HBM270 eBusiness
- HBM271 eCustomer Relationship Marketing
- HBM272 eMarketing

**Stage 3**

- HBM378 eCommerce Strategy: A Management Perspective

Further information

Contact the School of Business on +613 9214 5046

European Business

The European Business minor is a program which is unique in Australia. It outlines the historical, political and legal background of the European Union and develops in students an understanding of the main features of the regulatory and marketing environment which is shaping Europe today.

The highlight of the European Business minor is that it offers two (elective) subjects which are taken in Europe. The first of these, a Study Tour to Europe, involves a three to four week tour of several European countries and includes briefing sessions with major European companies, visits to European institutions such as the European Parliament, the European Court of Justice and meetings with organisations involved in Australia-Europe trade and investment. The second (elective) subject, Work Experience in Europe, involves three months’ work experience in a European country of choice. Particular emphasis in the minor is placed on Italy, the sixth economic power in the world.

The aim of this minor is to develop in students an appreciation of the events which are shaping Europe and European business today. It allows students to explore contemporary European business issues by offering a combination of subjects chosen from culture, politics, history, business and language. Students undertaking the minor in European Business will be better equipped to understand the economies, politics, societies and business cultures of Europe.

The Single European Market, the European Single Currency (Euro) and Pan-European operational strategies increasingly being adopted by EU companies make it more important for today’s graduates to be familiar with the EU, its operations, its regulatory environment and the impact of EU policy on Australian trade.

Career opportunities

The European Union’s swelling population of close to 380 million and its future enlargement make Europe a huge market, giving a growing number of Australian firms the opportunity to open up new outlets for their production and services. It is thus becoming more important for graduates with an interest in working in international business, particularly in Europe, to be familiar with the European Union and its business environment.

Structure

European Business is available as a minor only. A minor sequence consists of HBI392 European Union - Business Context and three post-core subjects from the subjects listed.

Course subjects

**Stage 1**

- HAA119 Post-War Italy
- HAA181 Italy and its Language 1

**Stage 2**

- HAA289 Comparative European Politics
- HBI288 The European Union

**Stage 3**

- HAA377 International Business in the Italian Context
- HBI389 Work Experience in Europe
- HBI390 Study Tour to Europe
- HBI392 European Union - Business Context (compulsory)

Further information

Contact the School of Business on +61 3 9214 5046

Finance

Finance is a field of study which is concerned with financial and capital markets, government influences on those markets and the role of the organisation within this framework. Finance theory is a relatively recent development, and draws on the disciplines of both economics and accounting. The finance major will equip graduates with a knowledge of financial instruments, investment options available for both personal and enterprise investment; how different forms of financial markets function, the relationship between risk and reward, and the relationship between the business enterprise and financial markets, both domestic and international. It will lead to knowledge which assists in making financial decisions for an organisation.

Career opportunities

Finance is one of the fastest growing employment areas. Graduates may find employment as an investment advisor, in corporate treasury, money dealing, sharebroking, or portfolio management.
Structure
A Finance major consists of HBE220 Macroeconomics, HBC224 Financial Management, and four post-core subjects from the list below, at least two of which must be at Stage 3. A minor in Finance consists of HBC224, HBE220 and two post-core subjects, at least one of which is at Stage 3.

Course subjects
Stage 1 (core subjects)
- HBC110 Accounting for Success
- HBE110 Macroeconomics

Stage 2
- HBC224 Financial Management (mandatory)
- HBC230 Personal Investment
- HBE220 Macroeconomics (mandatory)
- HBE228 Banking and Financial Markets

Stage 3
- HBC339 Financial Risk Management
- HBE333 Financial Institutions and Monetary Policy
- HBE335 International Finance
- HBL333 Finance Law

NOTE: HBL333 Finance Law can be counted towards a Finance major, but not a Finance minor.

Further information
Contact the School of Business on +61 3 9214 5046

Human Resource Management/Organisation Behaviour
The subjects in this integrated area broadly cover many aspects of organisations and the Human Behaviour and processes which occur within those settings. As a sequence of study it aims to:

- Prepare students for a range of human resource management and management roles in business.
- Develop a strong understanding of human resource management practices, organisation theory and structures, the behaviour of groups, the individuals who comprise those groups and the dynamic interrelationships among all these parts and aspects.
- Develop students’ capacity to reflect upon and understand their own and others’ behaviour.
- Develop communication and personal competence so that students are better equipped to fill the organisational roles which require interpersonal skills.

The HRM/OB study area can be taken as a vocational preparation for Human Resource Management (HRM), leading to associate membership of the Australian Human Resources Institute (course accredited by AHRI). To be eligible, students need to take all eight subjects offered in the HRM/OB area, in appropriate sequences. Many students will wish to take HRM/OB studies without a career in HRM in mind. Such a major/minor provides an excellent insight into human behaviour in organisations and the management of people, and would combine well with any other vocational major. All business professionals ultimately work in or with organisations and with people.

A large proportion of the course material in this major stream is taught in an experiential manner which requires active involvement by students, structured reflection, linkage with ‘outside’ experiences, and thinking through application issues. In each subject, students will have time to work on the development of self-directed and interdependent learning skills.

Career opportunities
Studies in HRM/OB prepare students for a vocation in HRM and provides students with the interpersonal and communication skills necessary for any position within an organisation. Students also acquire the managerial and general administrative skills necessary to work in any business environment. Career opportunities can be found in administration, human resources, training management, quality coordination and customer service.

Structure
A major in HRM/OB consists of six post-core subjects from the following list, at least two of which must be at Stage 3. A minor in HRM/OB consists of four post-core subjects at least one of which is at Stage 3.

Course subjects
Stage 1 (core subject)
- HBH110 Organisations and Management

Stage 2
- HBH220 Organisation Behaviour: Change & Diversity
- HBH221 Introduction to Human Resource Management
- HBH222 Organisation Design, Technology and Change
- HBH224 Legal Aspects of Human Resource Management

Stage 3
- HBH323 International Human Resource Management
- HBH324 Managing Workplace Relations
- HBH330 Dynamics of Group and Organisation Behaviour
- HBH335 HRM/OB Reading Unit*
- HBH341 Strategic Human Resource Management

* HBH335 may only be taken by students wanting AHRI accreditation and who are in their final semester of study for the Bachelor of Business, and who are unable to enrol in a Stage 3 subject which is required to complete the major sequence of study.

Further information
Contact the School of Business on +61 3 9214 5046

Information Systems
Information technology has pervaded every aspect of business organisations. As such, the study of computing and information systems and the supporting technology is vital for any business student. There are a number of related areas of study within the discipline: students can select majors or minors based on interest or career aspirations.

These options can be categorised under three main headings:

Business computing
Studies in this area are taken by students who see themselves as users of information systems rather than computer professionals. The emphasis is on the effective use of information technology within an organisation and the development of skills for solving business problems.

Business systems
Studies in this area are taken by students who wish to focus on the analysis of business information needs as a basis for specification of computer based information systems, rather than the technical aspects of design and development.

Software development
Students undertaking studies in this area will use a wide range of computer software. They will be seeking to specialise in the design, development and implementation of computer based systems in the business environment. Selecting one of these options in combination with other relevant business studies enables the graduate to effectively apply information technologies in the solving of business problems.

Career opportunities
Graduates may find employment in systems analysis, project management, computer programming, software support, technical specialists in a range of IT environments, products or analytical methods. Specialties include programming, communications, business analysis, etc.

Structure
A major in Information Systems consists of six post-core subjects, at least two of which must be at Stage 3. A minor in Information Systems consists of four post-core subjects, at least one of which is at Stage 3.
Course subjects

Stage 1

HIT1009 Business Programming 1
HIT1025 Introduction to Information Systems (core subject)
HIT1051 Software Development 1 (JAVA)
HIT1091 Web Development

Stage 2

HIT2006 Business Computing
HIT2010 Business Programming 2
HIT2013 COBOL Programming
HIT2016 Database 1
HIT2024 Introduction to Human Computer Interaction
HIT2049 Systems Analysis and Design
HIT2092 Advanced Web Technologies

Stage 3

HIT3007 Business Computing Applications
HIT3010 Component Base Development
HIT3017 Database 2
HIT3018 Database 3
HIT3024 Information Systems Project
HIT3038 Information Technology Strategies
HIT3038 Knowledge-Based Systems
HIT3044 Professional Issues in Information Technology
HIT3084 eCommerce: A Business Perspective
HIT3085 eCommerce Systems Infrastructure

Further information

Contact the School of Information Technology on +61 3 9214 5505

International Business

International Business is a multidisciplinary major. Industry, government and educational institutions recognise that increasingly business is carried on in a global marketplace. International business does not simply mean the export of goods. It includes the export of services such as accounting, trade in intellectual property, foreign direct investment, overseas portfolio investment and electronic commerce. The Swinburne major in International Business reflects this diversity and complexity.

A major or minor in International Business can be seen as a support to other majors in business especially majors in marketing, finance or accounting. A major in International Business may also be relevant to Arts students, especially those undertaking majors in Asian studies, European studies, Italian, Japanese or Politics.

Career opportunities

Graduates may find employment in international trade, business management or business consultancy.

Structure

To complete an International Business major the following 3 mandatory subjects must be completed: HBE110, HBL111 and HBM110, plus 3 further subjects to be selected from the following: HBE310, HBE340, HBM330, HBM331, HBM332, HBM339 and HBM339.

To complete a minor in International Business four of the subjects listed above must be completed, including at least two of the mandatory subjects.

Course subjects

Stage 1 (core subjects)
The following are mandatory business core prerequisites to Stage 2 & 3 International business subjects.

HBE110 Microeconomics
HBL111 Law in Global Business
HBM110 The Marketing Concept

Stage 2 and 3 Mandatory subjects

HBE231 Foundations of International Business
HBE340 International Trade Strategies
HBL331 International Business Law

Stage 2 and 3 Approved Subjects

HBM223 Transnational Marketing
HBE335 International Finance
HBM341 Asia-Business Context
HBM342 International Investment and Development
HBM392 European Union - Business Context
HBM339 Transnational Business Practices

Further information

Contact the School of Business on +61 3 9214 5046

Management

Management is a multidisciplinary area of study which aims to prepare students for a range of management roles in business. Students develop a strong understanding of the ways in which key resources, both human and financial, need to be planned, positioned, and controlled, and the products and services marketed to achieve an organisation’s strategic goals.

This major aims to develop students’ capacity to think strategically and in an integrated way about complex management issues and problems. In a number of subjects, students will also be encouraged to develop communication skills and personal competence so that they are better equipped to fill organisational roles with supervisory and management elements.

The major sequence of study requires students to combine studies in finance and management accounting, human resource management and marketing as three strands of expertise which are then integrated in a ‘capstone’ final year subject studying Business Strategy. Emphasis is placed on sound analysis of problems and practical application of knowledge. Students are encouraged to think through problems and develop workable solutions. In this way, the Management major will develop sound judgement and problem solving capacity in Business graduates.

Career opportunities

There are many opportunities for Management graduates, both as general management cadets and trainees in larger organisations, or as managers of small and medium enterprises. Naturally, new graduates do not begin their management careers ‘at the top’ but the integrated general management education obtained in the major will equip graduates for many organisational roles with supervisory elements and senior management potential. Graduates who move into their own family or other businesses will also find this major excellent preparation, especially if combined with a second more specialised major within the Bachelor of Business.

Structure

To complete a Management major the following six post-core subjects must be completed: HBC222, HBC224, HBM222; one of the following: HBM220, HBM221, HBM222, or HBM224; HBM341, and one of the following: HBM323, HBM324, HBM341, HBM330 or HBM331.

A Management minor is not offered.

To complete both a Management and Marketing major the following post-core subjects must be completed towards the Management major: HBC222, HBC224; HBM222; one of the following: HBM220, HBM221, HBM222 or HBM224; and HBM341. Refer to the Marketing section for Marketing major requirements.

Course subjects

Stage 1 (core subjects)
The following subjects are mandatory business core pre-requisites for Stages 2 and 3 Management subjects.

HBC110 Accounting for Success
HBM110 Organisations and Management
HBM110 The Marketing Concept
Stage 2
The following subjects are mandatory post-core subjects required for the Management major.

- HBC222 Management Decision Making
- HBC224 Financial Management
- HBM222 Marketing Planning

Plus one from the following:
- HBM220 Organisation Behaviour: Change & Diversity
- HBM221 Introduction to Human Resource Management
- HBM222 Organisation Design, Technology and Change
- HBM224 Legal Aspects of Human Resource Management

Stage 3

Plus one from the following:
- HBM324 Managing Workplace Relations
- HBM341 Strategic Human Resource Management
- HBM330 Product Management
- HBM331 Services Marketing and Management
- HBM341 Business Strategy (capstone subject taken in final semester of study)

Further information
Contact the School of Business on +61 3 9214 5046

Manufacturing Management

The manufacturing and processing of consumer and industrial products of food, beverages, automobiles, metals, plastics and minerals is an important part of the Australian economy. Following the deregulation of the early 1980’s, it is fair to say that today’s Australian companies in the dynamic manufacturing and processing industries are at, or close to, world class competitive standards. These industries are large employers: graduates with a major in Manufacturing Management are well positioned for a wide range of employment opportunities in operations management, human resource management, marketing, financial analysis, information systems, management accounting or technology management and innovation.

The Industry-based Learning (IBL) year is strongly recommended for Manufacturing Management students.

The Foundation for Australian Manufacturing Education (FAME) sponsors studies in Manufacturing Management. Business Victoria, Visc and FAME have provided funding for scholarships in this area. Scholarships are based on academic performance and IBL placement.

Career opportunities

The study of Manufacturing Management at Swinburne, when allied with other Bachelor of Business majors/minors and double degree options, can provide an interesting variety of employment and career opportunities, including: general management, small and medium enterprises, management traineeships and cadetships in large businesses and organisations.

Structure

To complete a Manufacturing Management major the following four mandatory subjects must be completed: HBM224, HBP336 and HBP337 plus two additional subjects from one of the groups listed below. A minor in Manufacturing Management comprises the four mandatory subjects listed below.

Course subjects

Stage 1 (core subjects)

The following subjects are mandatory business core pre-requisites for Stage 2 and 3 Manufacturing Management subjects.

- HBC110 Organisation & Management
- HBC110 Accounting for Success
- HBL111 Law in Global Business
- HBM110 The Marketing Concept

Mandatory subjects

- HBM224 Legal Aspects of Human Resource Management
- HBM228 Manufacturing Management 1
- HBP336 Manufacturing Management 2
- HBP337 Managing Technology and Innovation

And two subjects from one of the following groups of subjects to complete a major:

Accounting

- HBC222 Management Decision Making
- HBC223 Analysis for Competitive Advantage
- HBC224 Financial Management

Business Law

- HBL220 Contract Law
- HBL221 Company Law

Human Resource Management/Organisation Behaviour

- HBM222 Organisation Design, Technology and Change
- HBM324 Managing Workplace Relations

Marketing

- HBM270 eBusiness
- HBM222 Marketing Planning
- HBM330 Product Management

Science, Engineering and Design

Subjects approved by Head, School of Business.

Further information
Contact the School of Business on +613 9214 5046

Marketing

Successful companies take the path of ‘market focus’, that is, their strategies are customer driven. Marketing deals with the building and implementation of customer focus. The meaning of marketing is often misunderstood. One need look no further than the many advertisements without any real substance as to customer benefits and/or the delivery of these benefits. Frequently no distinction is made between selling and marketing. Unfortunately marketing has been introduced into many organisations as the ‘in word’, a kind of cosmetic change, the solution to the company’s problems, without changing the focus and the attitudes prevailing in the organisation. This has not worked, resulting in companies becoming disillusioned with marketing.

These companies did not understand the meaning of marketing. What does it mean? The answer is relatively simple: put yourself inside the skin of your customers and forget yourself for a while. That in itself is difficult to do, but that is exactly the difference between superficial and real marketing. To make this transition involves a rethink on your part. Instead of thinking on behalf of your customers you have to learn to listen to your clients, accept what they say at face value and execute what they want.

At Swinburne we explain the components of a business plan and marketing’s central role in strategy. Students are introduced to topics such as consumer behaviour, demand determinants, customer focus, marketing research, marketing planning, product and services management, advertising and promotion, international marketing and business environments of some European and Asian countries. Students are encouraged to think through problems and to find their own answers. They are assisted in exploring their thinking processes to ensure that they make the most of their abilities. Practical application and real life subjects are the key features of a marketing major at Swinburne. In addition each subject has an international orientation.

Career opportunities

Public relations, advertising, product/brand management, market research, direct marketing, international marketing.

Structure

To complete a Marketing major the following post-core subjects must be completed: HBM220, HBM222, HBM223, HBL229; either HBM330 or HBM331; and HBM341.
To complete a Marketing minor with a Marketing major four of the following subjects must be completed, with at least one at Stage 3: HAM211; HBL222; HBM220; HBM330 or HBM331; HBM332; or HBM339. To complete a Marketing minor without a Marketing major four of the following post-core subjects must be completed, with at least one at Stage 3: HBM220; HBM222; HBM223; HBM229; HBM330 or HBM331; HBM332 or HBM339. To complete both a Marketing and Management major the following post-core subjects must be completed towards the Marketing major: HBM220; HBM223; HBM229; HBM330; HBM331; and one of HAM211, HBL222, HBM220, HBM332, or HBM339. Refer to the Management section for Management major requirements. A minor in e-Marketing is also offered.

Course subjects

**Stage 1 (core subjects)**
- HBM110 The Marketing Concept
- HMB110/HBM111 Quantitative Analysis A/B

**Stage 2**
- HAM211 New Media: The Telecommunications Revolution
- HBL222 Marketing Law
- HBM220 Market Behaviour (highly recommended as first subject studied in Marketing major/minor post-core)
- HBM222 Marketing Planning
- HBM223 Transnational Marketing
- HBM270 eBusiness
- HBM229 Marketing Research

**Stage 3**
- HBM330 Product Management
- HBM331 Services Marketing and Management
- HBM333 Communications Strategy
- HBM339 Transnational Business Practice
- HBM341 Business Strategy (capstone subject)

Further information
Contact the School of Business on +61 3 9214 5046

**A042 Bachelor of Business (Accounting)**

VTAC code: 34411 (F/T), 34701 (P/T), 34413 (Int. Fee)
2001 Clearly-in ENTER: 85.0

The Bachelor of Business (Accounting) is a vocationally oriented course designed to assist in the intellectual, social and personal development of the student as preparation for entrance to accounting professions. The program prepares students for a career in business, whether domestic or international, recognising that the business world is a global one as we step into the 21st Century. It also produces educationally rounded people, capable of taking their places in their chosen professions and in the community in which they live. Swinburne takes particular pride in producing business graduates who are employment-ready, of immediate practical relevance to their employers and capable of excellent career development from a strong commencing base.

Along with this knowledge and skills development, the program deliberately takes on an entrepreneurial ‘flair’ throughout its entirety. Graduates will have the basic capacity, attributes and ‘mindset’ to consider creating their own enterprises from the time of graduation, or at some future point in their career. They will therefore be well prepared to either seek professional entry as an employee in their chosen field of specialisation or to grasp innovative business opportunities to employ themselves and others.

**Aims & Objectives**
The objectives are achieved by:
- Ensuring that the body of knowledge and technology imparted in the course will be relevant to immediate and potential employment opportunities.
- Developing self confidence through a learning experience aimed at an understanding of the subject areas and including the development of life-long learning skills.
- Offering industry based learning (IBL) opportunities which rapidly link theoretical learning with applied practical work experience.
- Developing creativity and analytical skills.
- Providing an understanding of the conventional ways of seeking answers to particular problems, including the use of library and other reference sources such as internet and electronic information sources.
- Developing multidisciplinary applied research skills through the honours year option.
- Developing both written and oral communication skills and team work capacities.
- Developing perspective and general knowledge by a study of a variety of disciplines and of their relationship to one another, forming an integrated, holistic business understanding.
- Developing an ability and willingness to adapt to change, given the turbulent, competitive and volatile nature of many businesses.
- Developing a broad understanding of the business and social environment, especially its global and complex nature.
- Developing skills and attitudes conducive to life-long learning.

The following strategies are used in the delivery of the Bachelor of Business (Accounting) to achieve the generic skills described in the course objectives:
- Assessment and workload expectations encourage students to be self directed.
- Many assignments rely on peer assisted learning for successful completion.
- Current research projects in many subjects require students to seek out active businesses as case studies for their completion.

**Campus**
Hawthorn

**Career opportunities**
To complete the requirements of this course students with studies in Accounting find rewarding work in industry, commerce, the public sector, the financial industry or business consulting and public accounting.

**Professional recognition**
Graduates fulfil the requirements for recognition by the CPA Australia (CPAA) and the Institute of Chartered Accountants of Australia (ICAA).

**Course duration**
Three years full-time or six years part-time. An optional and additional year of Industry-Based Learning (IBL) is also available.

**Structure**
To complete the requirements of this course, students must complete 24 subjects comprising the seven business core subjects and at least a major and minor and electives. Refer to majors and minors section listed under the Bachelor of Business. All 18 subjects listed below must be completed within this structure and an additional six subjects are required to make up either another major or a minor and electives. A major consists of six post-core subjects at least two of which must be at Stage 3. A minor consists of four post-core subjects at least one of which must be Stage 3.

Students wishing to enrol in subjects which are not a formal part of this course will be required to seek approval from the School Administration Manager prior to enrolment.

**Course restrictions**
Students should note the following restrictions:
- A maximum of twelve subjects from any discipline (e.g. Marketing - ‘HBM’ subject code prefix).
- A maximum of ten Stage 1 subjects (e.g. HBC110 - Stage 1 subjects have a 1 immediately following the three-letter code).
- A minimum of four Stage 3 subjects (e.g. HBC300 - Stage 3 subjects have a 3 immediately following the three-letter code).
- Unmatched exemptions can only be used as electives and do not fulfil Stage 3 subject course requirements.
- The subject HAT119 Academic Communication Skills cannot be used for credits towards the Bachelor of Business (Accounting).
• A subject can only be counted once as part of a major or minor or as an elective - one subject cannot be counted twice (e.g. the subject HBM222 Marketing Planning may be counted towards either a Management or Marketing major, but not both).
• Students are not permitted to enrol in subjects where they have completed another subject that is deemed to be equivalent.
• HBI300 Industry Placement cannot be used for credit towards the Bachelor of Business (Accounting).
• Students will be allowed to study a maximum of twenty-six subjects as part of a Bachelor of Business (Accounting).

**Stage 3 subjects - Honours Stream Option**

Each semester a limited number of Stage 3 subjects are offered by the School of Business to students as an Honours stream option. These subjects provide students with the challenge and an opportunity to develop a deeper understanding of the subject matter and to develop research skills by completing research based assessment tasks. Students are required to have achieved a credit grade average in the discipline subjects studied to date and gain approval from the subject convenor in order to enrol. Students enrolled in Honours stream subjects will have codes appended with an H and the words (Honours stream) to reflect the higher academic content and requirements. The Honours Stream option is highly recommended for students considering enrolment in the Bachelor of Business (Honours) course upon completion of the degree.

**Special course of study for students who have completed an Advanced Diploma in Business**

Students enrolled in the Bachelor of Business (Accounting) who have completed an approved Advanced Diploma or Diploma in Business or equivalent must complete all the normal requirements for the course except they are only required to complete four of the seven business core subjects (which may include matched subject credits). However, all core subjects required as prerequisite for later Stage subjects selected for study must be completed.

**Prerequisites/Corequisites**

Students must have passed prerequisites/corequisites listed for each subject and must check that they have fulfilled these requirements before enrolling. Subject convenors must be consulted if students wish to enrol in a subject for which they do not have the stated prerequisites.

**Industry-based Learning (IBL)**

The Bachelor of Business (Accounting) includes an optional Industry-based Learning (IBL) segment, in which students are placed in paid, supervised employment as part of their degree course. Students require a credit grade average for acceptance into the IBL program. Whilst enrolment in the Industrial Project completed as part of IBL is not for credit, it gives eligible students invaluable practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All IBL placements are subject to availability and require suitable English language skills.

**Course subjects**

**Stage 1**

**Business Core Subjects**

- HBC110 Accounting for Success
- HBE110 Microeconomics
- HBH110 Organisations and Management
- HBL111 Law in Global Business
- HBM110 The Marketing Concept
- HIT1025 Introduction to Information Systems
- HMB110 Quantitative Analysis A
- HMB111 Quantitative Analysis B

**Stage 2**

- HBC220 Financial Information Systems
- HBC221 Corporate Accounting
- HBC222 Management Decision Making
- HBC223 Analysis for Competitive Advantage
- HBC224 Financial Management
- HBC225 Auditing

- HBE220 Macroeconomics
- HBL220 Contract Law
- HBL221 Company Law

**Stage 3**

- HBC330 Current Issues in Accounting
- HBC331 Taxation Issues and Planning

Six additional subjects must be completed. These subjects may be taken as a major or a minor and two electives.

**Entry requirements**

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 and 4 - a study score of at least 25 in English (any).

For further details on entry requirements, refer to the Bachelor of Business.

**Application procedure**

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

**Further information**

Contact the School of Business

Telephone: +61 3 9214 5046
Fax: 61 3 9819 2117
Email: bushelh@swin.edu.au

**A043 Bachelor of Business**

**Human Resource Management**

**VTAC code:** 34411 (F/T), 34701 (P/T), 34413 (Int. Fee)

2001 Clearly-in ENTER: 85.0

The Bachelor of Business (Human Resource Management) is a vocationally oriented course designed to assist in the intellectual, social and personal development of the student as preparation for entrance to human resource management professions. The program prepares students for a career in business, whether domestic or international, recognising that the business world is a global one as we step into the 21st Century. It also produces educationally rounded people, capable of taking their places in their chosen professions and in the community.

Swinburne takes particular pride in producing business graduates who are employment-ready, of immediate practical relevance to their employers and capable of excellent career development from a strong commencing base. Along with this knowledge and skills development, the program deliberately takes on an entrepreneurial ‘flavour’ throughout its entirety.

Graduates will have the basic capacity, attributes and ‘mindset’ to consider creating their own enterprises from the time of graduation, or at some future point in their career. They will therefore be well prepared to either seek professional entry as an employee in their chosen field of specialisation or to grasp innovative business opportunities to employ themselves and others.

**Aims & Objectives**

The objectives are achieved by:

- Ensuring that the body of knowledge and technology imparted in the course will be relevant to immediate and potential employment opportunities.
- Developing self-confidence through a learning experience aimed at an understanding of the subject areas and including the development of life-long learning skills.
- Offering industry-based learning (IBL) opportunities which rapidly link theoretical learning with practical work experience.
- Developing creativity and analytical skills.
- Providing an understanding of the conventional ways of seeking answers to particular problems, including the use of library and other reference sources, such as internet and electronic information sources.
- Developing multi-disciplinary applied research skills through the honours year option.
- Developing both written and oral communication skills, and teamwork capacities.
• Developing perspective and general knowledge by a study of a variety of disciplines and of their relationship to one another, forming an integrated, holistic business understanding.

• Developing an ability and willingness to adapt to change, given the turbulent, competitive and volatile nature of many businesses.

• Developing a broad understanding of the business and social environment, and especially its global and complex nature.

• Developing skills and attitudes conducive to lifelong learning. The following strategies are used in the delivery of the Bachelor of Business (Human Resource Management) to achieve the generic skills described in the course objectives.

• Assessment and workload expectations encourage students to be self-directed.

• Many assignments rely on peer assisted learning for successful completion.

• Current research projects in many subjects require students to seek out active businesses as case studies for their completion.

**Campus**

Hawthorn

**Career opportunities**

Studies in HRM/DHB prepare students for a vocation in HRM and provides students with the interpersonal and communication skills necessary for any position within an organisation. Students also acquire the managerial and general administrative skills necessary to work in any business environment. Career opportunities can be found in: administration, human resources, training management, quality co-ordination, customer service.

**Professional recognition**

Graduates of this course are recognised by the Australian Human Resources Institute (AHRI).

**Course duration**

Three years full-time or six years part-time. An optional and additional year of Industry-based Learning (IBL) is also available.

**Structure**

To complete the requirements of this course students must complete 24 subjects comprising of the seven business core subjects and at least a major and minor and electives). Refer to majors and minors section listed under the Bachelor of Business.

All 15 subjects listed below must be completed within this structure and an additional 9 subjects are required to make up either another major or minors and electives. A major consists of 8 six post-core subjects at least two of which must be at Stage 3. A minor consists of four post-core subjects at least one of which must be Stage 3. Students undertaking the Bachelor of Business (Human Resource Management) must complete the mandatory core subject HBH110 Organisations and Management together with a further eight specialist subjects for professional recognition with AHRI. The specialist stream is composed of Stage 2 and Stage 3 subjects.

Students wishing to enrol in subjects which are not a formal part of this course will be required to seek approval from the School Administration Manager prior to enrolment.

**Course restrictions**

Students should note the following restrictions:

• A maximum of twelve subjects from any discipline (e.g. Human Resource Management - 'HBH' subject code prefix).

• A maximum of ten Stage 1 subjects (e.g. HBH110 - Stage 1 subjects have a 1 immediately following the three-letter code).

• A minimum of four Stage 3 subjects (e.g. HBH330 - Stage 3 subjects have a 3 immediately following the three-letter code).

• Unmatched exemptions can only be used as electives and do not fulfill Stage 3 subject course requirements.

• The subject HAT119 Academic Communication Skills cannot be used for credits towards the Bachelor of Business (Human Resource Management). A subject can only be counted once as part of a major or minor or as an elective - one subject cannot be counted twice (e.g. the subject HBM222 Marketing Planning may be counted towards either a Management or Marketing major, but not both).

• Students are not permitted to enrol in subjects where they have completed another subject deemed to be equivalent.

• HB3O0 Industry Placement cannot be used for credit towards the Bachelor of Business (Human Resource Management).

• Students will be allowed to study a maximum of twenty-six subjects as part of a Bachelor of Business (Human Resource Management).

**Stage 3 subjects - Honours Stream Option**

Each semester a limited number of Stage 3 subjects are offered by the School of Business to students as an Honours stream option. These subjects provide students with the challenge and an opportunity to develop a deeper understanding of the subject matter and to develop research skills by completing research based assessment tasks. To enrol students are required to have achieved a credit grade average in the discipline subjects studied to date and gain approval from the subject convenor. Students enrolled in Honours stream subjects will have codes appended with an H and the words (Honours stream) to reflect the higher academic content and requirements. The Honours Stream option is highly recommended for students considering enrolment in the Bachelor of Business (Honours) course upon completion of the degree.

**Special course of study for students who have completed an Advanced Diploma in Business**

Students enrolled in the Bachelor of Business (Human Resource Management) who have completed an approved Advanced Diploma or Diploma in Business or equivalent must complete all the normal requirements for the course except they are normally only required to complete four of the seven business core subjects (which may include matched subject credits). However, all core subjects required as prerequisite for later Stage subjects selected for study must be completed.

**Prerequisites/Corequisites**

Students must have passed prerequisites/corequisites listed for each subject and must check that they have fulfilled these requirements before enrolling. Subject conveners must be consulted if students wish to enrol in a subject for which they do not have the stated requisite.

**Industry-based Learning (IBL)**

The Bachelor of Business (Human Resource Management) includes an optional Industry-based Learning (IBL) segment, in which students are placed in paid, supervised employment as part of their degree course. Students require a credit grade average for acceptance into the IBL program. While enrolment in the Industrial Project completed as part of IBL is not for credit, it gives eligible students invaluable practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All IBL placements are subject to availability and require suitable English language skills.

**Course subjects**

**Stage 1**

**Business Core Subjects**

<table>
<thead>
<tr>
<th>Subject Code</th>
<th>Subject Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBC110</td>
<td>Accounting for Success</td>
</tr>
<tr>
<td>HBE110</td>
<td>Microeconomics</td>
</tr>
<tr>
<td>HBH110</td>
<td>Organisations and Management</td>
</tr>
<tr>
<td>HBL111</td>
<td>Law in Global Business</td>
</tr>
<tr>
<td>HBM110</td>
<td>The Marketing Concept</td>
</tr>
<tr>
<td>HIT1025</td>
<td>Introduction to Information Systems</td>
</tr>
<tr>
<td>HMB110</td>
<td>Quantitative Analysis A or</td>
</tr>
<tr>
<td>HMB111</td>
<td>Quantitative Analysis B</td>
</tr>
</tbody>
</table>

**Stage 2**

<table>
<thead>
<tr>
<th>Subject Code</th>
<th>Subject Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBH220</td>
<td>Organisation Behaviour: Change &amp; Diversity</td>
</tr>
<tr>
<td>HBH221</td>
<td>Introduction to Human Resource Management</td>
</tr>
<tr>
<td>HBH222</td>
<td>Organisation Design, Technology and Change</td>
</tr>
<tr>
<td>HBH224</td>
<td>Legal Aspects of Human Resource Management</td>
</tr>
</tbody>
</table>

**Stage 3**

<table>
<thead>
<tr>
<th>Subject Code</th>
<th>Subject Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBH333</td>
<td>International Human Resource Management</td>
</tr>
</tbody>
</table>
HBH234 Managing Workplace Relations
HBH330 Dynamics of Group and Organisation Behaviour
HBH341 Strategic Human Resource Management

Nine additional subjects must be completed. These subjects may be taken as a major and three electives, two minors and one elective, or a minor and five electives.

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.
VCE prerequisites: Units 3 and 4 - a study score of at least 25 in English (any).
For further details on entry requirements, refer to the Bachelor of Business.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Business
Telephone: +61 3 9214 5046
Fax: 61 3 9819 2117
Email: busheh@swin.edu.au

A044 Bachelor of Business (Marketing)
VTAC code: 34411 (F/T), 34701 (P/T), 34413 (Int. Fee)
2001 Clearly-in ENTER: 85.0

The Bachelor of Business (Marketing) is a vocationally oriented course that is designed to assist in the intellectual, social and personal development of the student as preparation for entrance to a range of specialist and generalist business professions. The program prepares students for a career in business, whether domestic or international, recognising that the business world is a global one as we step into the 21st Century. It also produces educationally rounded people, capable of taking their place in their chosen profession and community.

Swinburne takes particular pride in producing business graduates who are employment-ready, of immediate practical relevance to their employers and capable of excellent career development from a strong commencing base. Along with this knowledge and skills development, the program deliberately takes on an entrepreneurial ‘flavour’ throughout its entirety.

Graduates will have the basic capacity, attributes and ‘mindset’ to consider creating their own enterprises from the time of graduation, or at some future point in their career. They will therefore be well prepared to either seek professional entry as an employee in their chosen field of specialisation or to grasp innovative business opportunities to employ themselves and others.

Aims & Objectives
The objectives are achieved by:

- Ensuring that the body of knowledge and technology imparted in the course will be relevant to immediate and potential employment opportunities.
- Developing self-confidence through a learning experience aimed at an understanding of the subject areas and including the development of life-long learning skills.
- Offering industry based learning (IBL) opportunities which rapidly link theoretical learning with practical work experience.
- Developing creativity and analytical skills.
- Providing an understanding of the conventional ways of seeking answers to particular problems, including the use of library and other reference sources such as internet and electronic information sources.
- Developing multi-disciplinary applied research skills through the honours year option.
- Developing both written and oral communication skills, and team work capacities.
- Developing perspective and general knowledge by a study of a variety of disciplines and of their relationship to one another, forming an integrated, holistic business understanding.
- Developing an ability and willingness to adapt to change, given the turbulent, competitive and volatile nature of many businesses.
- Developing a broad understanding of the business and social environment, and especially its global and complex nature.
- Developing skills and attitudes conducive to lifelong learning.

The following strategies are used in the delivery of the Bachelor of Business (Marketing) to achieve the generic skills described in the course objectives:

- Assessment and workload expectations encourage students to be self-directed.
- Many assignments rely on peer assisted learning for successful completion.
- Current research projects in many subjects require students to seek out active businesses as case studies for their completion.

Campus
Hawthorn

Career opportunities
Students with studies in marketing find rewarding work in public relations, advertising, product/brand management, market research, direct marketing and international marketing.

Professional recognition
Graduates of this course are eligible to become associates of the Australian Marketing Institute. In addition, this course also fulfils the educational requirements for recognition as a Certified Practising Marketer.

Course duration
Three years full-time or six years part-time. An optional and additional year of Industry-based Learning (IBL) is also available.

Structure
To complete the requirements of this course students must complete 24 subjects comprising of the seven business core subjects and at least a major and minor and elective(s). Refer to majors and minors section listed under the Bachelor of Business.

All 17 subjects listed below must be completed within this structure and an additional 7 subjects are required to make up either another major or minor and electives. A major consists of 6 six post-core subjects at least two of which must be at Stage 3. A minor consists of four post-core subjects at least one of which must be Stage 3.

Students wishing to enrol in subjects that are not a formal part of this course will be required to seek approval from the School Administration Manager prior to enrolment.

Course restrictions
Students should note the following restrictions:

- A maximum of twelve subjects from any discipline (e.g. Marketing - “HBM” subject code prefix).
- A maximum of ten Stage 1 subjects (e.g. HBM110 - Stage 1 subjects have a 1 immediately following the three-letter code).
- A minimum of four Stage 3 subjects (e.g. HBM330 - Stage 3 subjects have a 3 immediately following the three-letter code).
- Unmatched exemptions can only be used as electives and do not fulfill Stage 3 subject course requirements.
- The subject HAT119 Academic Communication Skills cannot be used for credits towards the Bachelor of Business (Marketing).
- A subject can only be counted once as part of a major or minor or as an elective - one subject cannot be counted twice (e.g. the subject HBM222 Marketing Planning may be counted towards either a Management or Marketing major, but not both).
- Students are not permitted to enrol in subjects where they have completed another subject that is deemed to be equivalent.
- HBI300 Industry Placement cannot be used for credit towards the Bachelor of Business (Marketing).
- Students will be allowed to study a maximum of twenty-six subjects as part of a Bachelor of Business (Marketing).

Stage 3 subjects-Honours Stream Option
Each semester a limited number of Stage 3 subjects are offered by the School of Business to students as an Honours stream option. These subjects provide students with the challenge and an opportunity to develop a deeper...
understanding of the subject matter, and to develop research skills by completing research based assessment tasks. To enrol students are required to have achieved a credit grade average in the discipline subjects studied to date and gain approval from the subject convenor. Students enrolled in Honours stream subjects will have codes appended with an H and the words (Honours stream) to reflect the higher academic content and requirements. The Honours Stream option is highly recommended for students considering enrolment in the Bachelor of Business (Honours) course upon completion of the degree.

Special course of study for students who have completed an Advanced Diploma in Business

Students enrolled the Bachelor of Business (Marketing) who have completed an approved Advanced Diploma or Diploma in Business or equivalent must complete all the normal requirements for the course except they are only required to complete four of the seven business core subjects (which may include matched subject credits). However, all core subjects required as prerequisite for later Stage subjects selected for study must be completed.

Prerequisites/Corequisites

Students must have passed prerequisites/corequisites listed for each subject and must check that they have fulfilled these requirements before enrolling. Subject convenors must be consulted if students wish to enrol in a subject for which they do not have the stated requisite.

Industry-based Learning (IBL)
The Bachelor of Business (Marketing) includes an optional Industry-based Learning (IBL) segment, in which students are placed in paid, supervised employment as part of their degree course. Students require a credit grade average for acceptance into the IBL program. Whilst enrolment in the Industrial Project completed as part of IBL is not for credit, it gives eligible students invaluable practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All IBL placements are subject to availability and require suitable English language skills.

Course subjects

Stage 1 - Business Core Subjects

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Description</th>
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<tbody>
<tr>
<td>HBC110</td>
<td>Accounting for Success</td>
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<td>Law in Global Business</td>
</tr>
<tr>
<td>HBM110</td>
<td>The Marketing Concept</td>
</tr>
<tr>
<td>HTH120</td>
<td>Introduction to Information Systems</td>
</tr>
<tr>
<td>HMB110</td>
<td>Quantitative Analysis A or</td>
</tr>
<tr>
<td>HMB111</td>
<td>Quantitative Analysis B</td>
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</table>

Stage 2

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBL222</td>
<td>Marketing Law</td>
</tr>
<tr>
<td>HBM220</td>
<td>Market Behaviour (highly recommended as first subject studied in Marketing major/minor post-core)</td>
</tr>
<tr>
<td>HBM222</td>
<td>Marketing Planning</td>
</tr>
<tr>
<td>HBM223</td>
<td>Transnational Marketing</td>
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<tr>
<td>HBM229</td>
<td>Marketing Research</td>
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Stage 3

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBM330</td>
<td>Product Management</td>
</tr>
<tr>
<td>HBM331</td>
<td>Services Marketing and Management</td>
</tr>
<tr>
<td>HBM333</td>
<td>Communications Strategy</td>
</tr>
<tr>
<td>HBM341</td>
<td>Business Strategy (capstone subject)</td>
</tr>
<tr>
<td></td>
<td>and one of (from Stage 2 and 3)</td>
</tr>
<tr>
<td>HAM211</td>
<td>New Media: The Telecommunications Revolution</td>
</tr>
<tr>
<td>HBM270</td>
<td>eBusiness</td>
</tr>
<tr>
<td>HBM339</td>
<td>Transnational Business Practices</td>
</tr>
</tbody>
</table>

Seven additional subjects must be completed. These subjects may be taken as a major and one elective or a minor and three electives.

Entry requirements

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 and 4 - a study score of at least 25 in English (any). For further details on entry requirements, refer to the Bachelor of Business.

Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information

Contact the School of Business
Telephone: +61 3 9214 5046
Fax: 61 3 9219 2117
Email: busheh@swin.edu.au

DOUBLE DEGREES

A058 Bachelor of Business / Bachelor of Arts (Italian)

VTAC code: 34651 (HECS), 34653 (Int. Fee)
2001 Clear in ENTER: 81.35

The Bachelor of Business/Bachelor of Arts (Italian) is a vocationally oriented course designed to assist in the intellectual, social and personal development of the student as preparation for entrance to a range of specialist and generalist business professions. The program prepares students for a career in business, whether domestic or international, recognising that the business world is a global one as we step into the 21st Century. It also produces educationally rounded people, capable of taking their place in their chosen profession and their community.

The ability to communicate both verbally and in documents in the language of the customer is seen as a significant advantage for Australian business people trying to break into competitive international markets. Swinburne particularly takes pride in producing business graduates who are employment-ready, of immediate practical relevance to their employers and capable of excellent career development from a strong commencing base. Along with knowledge and skills development, the program deliberately takes on an entrepreneurial ‘flavour’ throughout its entirety. Graduates will have the basic capacity, attributes and ‘mindset’ to consider creating their own enterprises from the time of graduation, or at some future point in their career. They will therefore be well prepared to either seek professional entry as an employee in their chosen field of specialisation or grasp innovative business opportunities to employ themselves or others.

Swinburne’s Bachelor of Business/Bachelor of Arts (Italian) is a unique course offering students with no previous knowledge of the language study of the Italian language and its associated areas including culture, social, political and economic aspects, and an array of business specialisations. Completing students are eligible to receive two degrees, a Bachelor of Business and a Bachelor of Arts (Italian). In addition to the academic and practical skills which this course provides, it also opens up a myriad of international study and work opportunities upon which to build networks within Italy.

Aims & Objectives

The objectives are achieved by:

- Ensuring that the body of knowledge and technology imparted in the course will be relevant to immediate and potential employment opportunities.
- Developing self confidence through a learning experience aimed at an understanding of the subject areas and including the development of life-long learning skills.
- Offering industry based learning (IBL) opportunities which rapidly link theoretical learning with applied practical work experience.
- Developing creativity and analytical skills.
- Providing an understanding of the conventional ways of seeking answers to particular problems, including use of library and other reference sources such as modern internet and electronic information sources.
- Developing multi-disciplinary applied research skills through the honours year option.
- Developing both written and oral communication skills, and team work capacities.
Bachelor of Arts (Italian) to achieve the generic skills described in the course objectives:
- Developing perspective and general knowledge by a study of a variety of disciplines and of their relationship to one another, forming an integrated, holistic business understanding.
- Developing an ability and willingness to adapt to change, given the turbulent, competitive and volatile nature of many businesses.
- Developing a broad understanding of the business and social environment, and especially its global and complex nature.
- Developing skills and attitudes conducive to lifelong learning.
- Offering a unique opportunity to participate in study tours to Europe and to undertake work experience in Europe.

The following strategies are used in the delivery of the Bachelor of Business/Bachelor of Arts (Italian) to achieve the generic skills described in the course objectives:
- Assessment and workload expectations encourage students to be self-directed.
- Many assignments rely on peer assisted learning for successful completion.
- Current research projects in many subjects require students to seek out active businesses as case studies in their completion.

Campus
Hawthorn

Career opportunities
Graduates of this double degree enjoy opportunities wherever Italian is spoken, with particular advantages in organisations where there are either joint country business ventures or offices located in Italy. In order to teach Italian, graduates must have completed the Stage 3 subjects in the Advanced Italian stream.

The business majors provide graduates with skills in a wide range of professional occupations. For career opportunities based on business majors refer to Business specialisations.

Professional recognition
For full details on professional recognition pertaining to this course refer to the Bachelor of Business course entries.

Course duration
Four years full-time or equivalent part-time. An optional and additional year of Industry-based Learning (IBL) is also available.

Structure
The course comprises thirty-two semester subjects and is designed to enable students to complete the compulsory requirements for any business major together with the full range of Italian subjects in order to complete the requirements of the two degrees. The requirements of this course should be read in conjunction with the Bachelor of Business course description.

Students must complete the core subjects of the business degree (seven subjects) and a major (six subjects) chosen from one of the approved business specialisations (refer to Business specialisations) – a minimum of thirteen business specific subjects, plus ten mandatory Italian language subjects and three supporting cultural subjects and six additional subjects (major, minor and/or electives) which may be selected from subjects offered in the Bachelor of Arts or Bachelor of Business specialisations or other disciplines outside the School of Business by approval. For full details of Business and Arts specialisations pertaining to this course refer to the Bachelor of Business and Bachelor of Arts course entries.

Students wishing to enrol in subjects which are not a formal part of this course will be required to seek approval from the School Administration Manager prior to enrolment.

Stage 3 subjects-Honours Stream Option
Each semester a limited number of Stage 3 subjects are offered by the School of Business to students as Honours stream option. These subjects provide students with the challenge and an opportunity to develop a deeper understanding of the subject matter, and to develop research skills by completing research based assessment tasks. To enrol students are required to have achieved a credit grade average in the discipline subjects studied to date and gain approval from the subject convenor. Students enrolled in Honours stream subjects will have codes appended with an H and the words (Honours stream) to reflect the higher academic content and requirements. The Honours Stream option is highly recommended for students considering enrolment in the Bachelor of Business (Honours) course upon completion of the degree.

Course restrictions
Students should note the following restrictions on subjects that can be credited towards the Bachelor of Business/Bachelor of Arts (Italian):
- A maximum of twelve subjects from any discipline (e.g. Accounting - “HBC”, Marketing - “HBM” subject code prefix).
- A maximum of twelve Stage 1 subjects (e.g. HBM110 - Stage 1 subjects have a 1 immediately following the three-letter code).
- A minimum of three Stage 3 subjects must be completed in addition to the mandatory Stage 3 language and cultural subjects (e.g. HBM330 - Stage 3 subjects have a 3 immediately following the three-letter code).
- A subject can only be counted once as part of a major or minor or as an elective - one subject cannot be counted twice (e.g. the subject HBM222 may be counted towards either an Management or Marketing major but not both).
- Students are not permitted to enrol in subjects where they have completed another subject that is deemed to be equivalent.
- HB1000 Industry Placement cannot be used for credit towards the double degree.
- Students will be allowed to study a maximum of thirty-four subjects as part of the double degree.

Course subjects
Business
The seven business core subjects are:
- HBC110 Accounting for Success
- HBE110 Microeconomics
- HBH110 Organisations and Management
- HBL111 Law in Global Business
- HBM110 The Marketing Concept
- HIT1025 Introduction to Information Systems
- HMB110 Quantitative Analysis A, or
- HMB111 Quantitative Analysis B

Arts - Language subjects Beginners' stream
Stage 1
- HAA181 Italy and Its Language 1
- HAA182 Italy and Its Language 2
- HAA119 Post-War Italy

Stage 2
- HAA281 Italian 2X
- HAA282 Introductory Business Italian 2Y
- HAA283 Italian 2Z
- HAA289 Contemporary European Politics

Stage 3
- HAA381 Italian 3X
- HAA387 Advanced Business Italian
- HAA388 Contemporary Italy

Advanced stream
Stage 1
- HAA184 Advanced Italian 1A
- HAA185 Advanced Italian 1B
- HAA119 Post-War Italy

Stage 2
- HAA284 Advanced Italian 2A
- HAA285 Introductory Business Italian 2B
- HAA286 Advanced Italian 2C
- HAA289 Contemporary European Politics
Stage 3
HAA384 Individual Project
HAA387 Advanced Business Italian
HAA388 Contemporary Italy

Cultural subjects
HB1288 European Union
HAA377 International Business in the Italian Context
HB1392 European Union Business Context

Recommended electives
HB1388 Work Experience in Europe
HB1390 Study Tour to European Union

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.
VCE prerequisites: Units 3 and 4 - a study score of at least 25 in English. Bonus points may be given for VCE LOTE.
NOTE: This three year intensive language sequence assumes no prior knowledge of the language. Advanced language sequence is available for students who have passed VCE level Italian. Native speakers of Italian are not eligible for admission to this course.
For further details on entry requirements, refer to the Bachelor of Business.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Business
Telephone: +61 3 9214 5046
Fax: 61 3 9819 2117
Email: busheh@swin.edu.au

A057 Bachelor of Business / Bachelor of Arts (Japanese)
VTAC course code: 34801 (HECS), 34803 (Int. Fees)
2001 Clearly-in ENTER: 81.85

The Bachelor of Business/Bachelor of Arts (Japanese) is a unique course offering students (with no previous knowledge of the language) study of Japanese language and its associated areas including culture, social, political and economic aspects, and an array of business specialisations. Completing students are eligible to receive two degrees, a Bachelor of Business and a Bachelor of Arts (Japanese).
In addition to academic and practical skills, the course also opens up a myriad of international study and work opportunities upon which to build networks within Japan.

Aims & Objectives
The objectives are achieved by:
- Ensuring that the body of knowledge and technology imparted in the course will be relevant to immediate and potential employment opportunities.
- Developing self-confidence through a learning experience aimed at an understanding of the subject areas and including the development of life-long learning skills.
- Offering industry based learning (IBL) opportunities which rapidly link theoretical learning with applied practical work experience.
- Developing creativeness and analytical skills.
- Providing an understanding of the conventional ways of seeking answers to particular problems, including use of library and other reference sources such as modern internet and electronic information sources.
- Developing multi-disciplinary applied research skills through the honours year option.
- Developing both written and oral communication skills, and team work capacities.
- Developing perspective and general knowledge by a study of a variety of disciplines and of their relationship to one another, forming an integrated, holistic business understanding.
- Developing an ability and willingness to adapt to change, given the turbulent, competitive and volatile nature of many businesses.
- Developing a broad understanding of the business and social environment, and especially its global and complex nature.
- Developing skills and attitudes conducive to lifelong learning.
- Offering a unique opportunity to participate in study tours to Asia and to undertake work experience in Japan.
The following strategies are used in the delivery of the Bachelor of Business/Bachelor of Arts (Japanese) to achieve the generic skills described in the course objectives:
- Assessment and workload expectations encourage students to be self directed.
- Many assignments rely on peer assisted learning for successful completion.
- Current research projects in many subjects require students to seek out active businesses as case studies in their completion.

Campus
Hawthorn

Career opportunities
Graduates of this double degree enjoy opportunities wherever Japanese is spoken, with particular advantages in organisations where there are either joint country business ventures or offices located in Japan. In order to teach Japanese, graduates must have completed the Stage 3 subjects in the Advanced Japanese stream.
The Business majors provide graduates with skills in a wide range of professional occupations. For career opportunities based on business majors, refer to Business specialisations.

Professional recognition
For full details on professional recognition pertaining to this course refer to the Bachelor of Business course entry.

Course duration
Four years full-time or equivalent part-time. An optional and additional year of Industry-based Learning (IBL) is also available.
Structure
The course comprises thirty-two semester subjects and is designed to enable students to complete the compulsory requirements for any business major together with the full range of Japanese subjects in order to complete the requirements of the two degrees. The requirements of this course should be read in conjunction with the Bachelor of Business course description.

Students must complete the core subjects of the Business degree (seven subjects) and a major (six subjects) chosen from one of the approved Business specialisations (refer to Business specialisations) - a minimum of thirteen business specific subjects, plus ten mandatory Japanese language subjects and three supporting cultural subjects and six additional subjects (major, or minor and electives) which may be selected from subjects offered in the Bachelor of Arts or Bachelor of Business specialisations or other disciplines outside the School of Business by approval. For full details of Business and Arts specialisations pertaining to this course refer to the Bachelor of Business and Bachelor of Arts course entries.

Students wishing to enrol in subjects which are not a formal part of this course will be required to seek approval from the School Administration Manager prior to enrolment.

Stage 3 subjects - Honours Stream Option
Each semester a limited number of Stage 3 subjects are offered by the School of Business to students as an Honours stream option. These subjects provide students with the challenge and an opportunity to develop a deeper understanding of the subject matter, and to develop research skills by completing research based assessment tasks. To enrol students are required to have achieved a credit grade average in the discipline subjects studied to date and gain approval from the subject convenor. Students enrolled in Honours stream subjects will have codes appended with an H and the words (Honours stream) to reflect the higher academic content and requirements. The Honours Stream option is highly recommended for students considering enrolment in the Bachelor of Business (Honours) course upon completion of the degree.

Course restrictions
Students should note the following restrictions on subjects that can be credited towards the Bachelor of Business/Bachelor of Arts (Japanese):

- A maximum of twelve subjects from any discipline (e.g. Marketing - 'HBM' subject code prefix).
- A maximum of twelve Stage 1 subjects (e.g. HBM110 - Stage 1 subjects have a 1 immediately following the three-letter code).
- A minimum of three Stage 3 subjects must be completed in addition to the mandatory Stage 3 language and cultural subjects (e.g. HBM330 - Stage 3 subjects have a 3 immediately following the three-letter code).
- Unmatched exemptions can only be used as electives and do not fulfill Stage 3 subject course requirements.
- The subject HAT119 Academic Communication Skills cannot be used for credits towards the double degree.
- A subject can only be counted once as part of a major or minor or as an elective - one subject cannot be counted twice (e.g. the subject HBM222 may be counted towards either a Management or Marketing major, but not both).
- Students are not permitted to enrol in subjects where they have completed another subject that is deemed to be equivalent.
- HBI300 Industry Placement cannot be used for credit towards the double degree.
- Students will be allowed to study a maximum of thirty-four subjects as part of the double degree.

Course subjects

Business
The seven business core subjects are:

- HBC110 Accounting for Success
- HBE110 Microeconomics
- HBH110 Organisations and Management
- HBL111 Law in Global Business
- HBM110 The Marketing Concept
- HIT1025 Introduction to Information Systems
- HMB110 Quantitative Analysis A, OR

Arts - Language subjects

Beginners' stream

Stage 1
- HAJ107 Introductory Japanese 1A
- HAJ108 Written Japanese 1B
- HAJ109 Spoken Japanese 1B

Stage 2
- HAJ115 Intermediate Japanese 2A
- HAJ117 Written Japanese 2B
- HAJ118 Spoken Japanese 2B

Stage 3
- HAJ318 Written Japanese 3A
- HAJ319 Spoken Japanese 3A
- HAJ323 Written Japanese 3B
- HAJ324 Spoken Japanese 3B

Advanced stream

Stage 1
- HAJ131 Advanced Japanese 1A
- HAJ132 Advanced Written Japanese 1B
- HAJ133 Advanced Spoken Japanese 1B

Stage 2
- HAJ231 Advanced Written Japanese 2A
- HAJ232 Advanced Spoken Japanese 2A
- HAJ233 Advanced Written Japanese 2B
- HAJ234 Advanced Spoken Japanese 2B

Stage 3
- HAJ331 Advanced Written Business Japanese
- HAJ332 Advanced Spoken Business Japanese
- HAJ333 Advanced Business Readings and Communication

Cultural Subjects
- HAJ102 Introduction to Japan - A Cultural Overview
- HAJ202 Communication in Japanese
- HBI341 Asia-Business Context

Recommended electives
- HAT116 Linguistics
- HAJ302 Work Experience in Japan (depending on availability of placements)

Students who intend on graduating, to teach Japanese either at primary or secondary level or who do not wish to preclude this possibility should note that the exit point required in the Japanese major must be at the third-year Advanced level. To achieve this, students are advised to transfer to the Advanced stream by enrolling in third year Advanced subjects after completing second year. A credit is the minimum requirement to be able to transfer to the Advanced course.

Language and business subjects must normally be studied simultaneously throughout the duration of the course.

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 and 4 - a study score of at least 25 in English. Bonus points may be given for VCE LOTE.

NOTE: This three year intensive language sequence assumes no prior knowledge of the language. Advanced language sequence is available for students who have passed VCE level Japanese. Native speakers of Japanese are not eligible for admission to this course.

For further details on entry requirements, refer to the Bachelor of Business.
Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Business
Telephone: +61 3 9214 5046
Fax: 61 3 9819 2117
Email: busbheh@swin.edu.au

HONOURS YEAR

A063 Bachelor of Business (Honours)

The Bachelor of Business (Honours) course provides students with demonstrated academic ability the opportunity to pursue their undergraduate studies to an advanced level, to deepen their intellectual understanding in their major area of study and to develop their research skills.

The Honours course is a recognised point of entry into postgraduate research studies. Students concentrate on their chosen area of study, gaining a better understanding of the academic discipline which they study and the research techniques appropriate to the discipline. The requirement to complete a substantial original piece of research for their dissertation ensures that honours graduates develop abilities to conceptualise problems, devise research strategies and carry out individual research work under the supervision of a member of staff with expertise in the area.

For students wishing to seek employment following their undergraduate degree, the Honours course affords the opportunity to extend their knowledge of their chosen discipline and to specialise in an area within it. The course’s strong orientation to research instructs students in the principles and techniques of original research and prepares them for areas of professional employment in which conceptual, organisational and research skills are in demand.

Aims & Objectives
The Bachelor of Business (Honours) course:

- Provides students with an opportunity to enhance their research ability and permits further studies and specialisation in their discipline.
- Offers students the opportunity to add considerable depth to their understanding of concepts within their chosen discipline and encourages students to pursue excellence in their studies at a higher level.
- Is unique in that it offers students a Business Honours degree with a language component.
- Encourages a multidisciplinary approach by permitting students to undertake, where appropriate, subjects offered by other schools, divisions or institutions.

Campus
Hawthorn

Career opportunities
Students with a Bachelor of Business (Honours) degree will have enhanced employment opportunities in their chosen area of:

- Accounting.
- Finance.
- Information Systems.
- International Business.
- Management.
- Manufacturing Management.
- Marketing.

Course duration
One year full-time or over two consecutive years part-time.

Structure
The Honours course consists of a 20% research methodology component, a 20% advanced reading component and a 60% dissertation component. Students must satisfactorily complete all three components to achieve an overall honours assessment.

Students will be required to complete both coursework and dissertation requirements in one of the major areas of study listed below:

- Accounting.
- Finance.
- Information Systems.
- International Business.
- Management.
- Manufacturing Management.
- Marketing.
- Any of the above areas of study combined with a language component from either Italian, Japanese or Korean.

Research methodology component
The research methodology subject (HB0415) aims to equip students with the necessary research skills to conduct studies for higher degrees. It is designed to facilitate the development of independent learning skills. Students will be presented with various research methodologies appropriate to their chosen discipline as well as those used in other disciplines. Assessment will be based on assignments and class exercises. Teaching methods will include formal lectures and tutorial discussion groups and will make extensive use of library resources.

This subject is compulsory for all Bachelor of Business (Honours) students and no prerequisite is necessary. Subject to approval from the School of Business Honours Committee, a pass in an equivalent subject at a graduate level may entitle the student to an exemption from this subject.

Advanced Reading component
The discipline specific subject (HBx411) aims to allow a breadth and depth of exploration of the area of study chosen by the student. This is an exploratory approach which is intended to help the student arrive at a viable topic for their dissertation. Students will be expected to read both textual and journal articles, and attend recommended seminars of current business and social topics. A structured seminar approach will form the basis of the content.

Dissertation component
Normally a student will produce, under supervision, a dissertation (HBx410) between 10,000 and 15,000 words. The structure of the dissertation will be consistent with the proposal development in the Advanced Reading subject, and with the quality expectations that are carried with a work of this kind. As part of the Bachelor of Business (Honours) course, students may be required to make class presentations at progressive stages in their course and to attend and participate fully in a series of seminars conducted by staff.

Students who successfully complete the above components will be graded as follows:

- First Class Honours (H1) 85%-100%
- Upper Second Class Honours (H2A) 75%-84%
- Lower Second Class Honours (H2B) 65%-74%
- Third Class Honours (H3) 50%-64%

Majors/Specialisation

- Accounting.
- Finance.
- Information Systems.
- International Business.
- Management.
- Manufacturing Management.
- Marketing.

Any of the above areas of study combined with a language component from one of Italian or Japanese.

Course subjects

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Points</th>
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<tbody>
<tr>
<td>HB0415</td>
<td>Research Methodology (20 credit points)</td>
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<tr>
<td>HBx410</td>
<td>Honours Dissertation (60 credit points)</td>
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</table>
Entry requirements
To be eligible for admission into the Bachelor of Business (Honours) course, a student must have satisfied the requirements of an undergraduate pass degree with a business major (completed within the last five years), from a university approved by Swinburne. The student must have achieved an average level of attainment of a credit (C) or better in an appropriate undergraduate course (or range of disciplines) considered by the School of Business Honours Committee to be acceptable for entry into the Bachelor of Business (Honours) course. Applicants for the language component must also have achieved a credit average in language studies.

Application procedure
Application forms are available from the School of Business.

Further information
Contact the Bachelor of Business (Honours) Convenor, Liz Levin on +61 3 9214 8472 or the Student and Course Administrator, Vicki Ryan on +61 3 9214 5616. Fax: +61 3 9819 2117
Email: busheh@swin.edu.au

COMPUTING and INFORMATION TECHNOLOGY

A066 Bachelor of Information Systems
VTAC code: 34641 (F/T), 34643 (Int. Fee)
2001 Clearly-in ENTER: 82.50

The Bachelor of Information Systems is concerned with the application of information technology to support organisations in the conduct of their business. It examines the organisational, technical and design requirements for the analysis, design and implementation of solutions to business requirements.

Aims & Objectives
- To provide the necessary knowledge and skills in the application of information technology to support organisations in the conduct of their business.
- To examine the technology, techniques, and organisational issues relating to the analysis, design and implementation of solutions to business requirements.

Campus
Hawthorn

Career opportunities
This degree opens up many employment opportunities, both in the public and private sectors. Students currently find employment in organisations that utilise information technology to support traditional business applications. Graduates may choose to specialise in one of the following:

- Systems analysis: analysis of the information needs of organisations leading to specification of requirements for computer-based information systems.
- Project management: definition and management of the scope and task structure of information systems projects and management of the resources for project implementation.
- Product support: facilitation of the effective use of major computer software products to solve information-processing problems.
- Software development: application of sound principles of design and construction to the development and implementation of computer-based information systems.
- User liaison: provision of software product and information systems methodology expertise to facilitate effective use of information technology for a variety of business and professional applications.

Professional recognition
This course is acknowledged as being at the Professional Level (the highest level) with the Australian Computer Society.

Course duration
Three years full-time (plus one year optional Industry-based Learning).

Structure
Students take a total of 24 subjects (or equivalent). Program of study must include:
- 13 nominated IT subjects
- 1-3 IT electives
- 4 nominated business core subjects
- 4-6 elective business subjects at least one of which must be stage 3.

Note that there are two optional streams. The first stream emphasises the structured approach, with programming in Visual Basic. The second stream emphasises the object-oriented approach, with programming in Java. Students taking the Visual Basic stream may also take Java subjects as electives (and vice-versa).

Recommended areas of study are:
- Accounting
- Organisation Behaviour
- Marketing
- Economics
- Management.

It is possible to take two electives from the Languages, Media or Social Sciences areas.

Course subjects

Stage 1

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<thead>
<tr>
<th>Semester 1</th>
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<tbody>
<tr>
<td>HIT1025</td>
<td>Introduction to Information Systems</td>
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<tr>
<td>HIT1009</td>
<td>Business Programming 1 (VB stream) or</td>
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<tr>
<td>HIT1051</td>
<td>Software Development 1 (Java stream)</td>
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<tr>
<td>HBC110</td>
<td>Accounting for Success</td>
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<tr>
<td>HBM110</td>
<td>Organisations and Management</td>
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<tr>
<th>Semester 2</th>
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<tbody>
<tr>
<td>HIT2049</td>
<td>Systems Analysis and Design (VB Stream)</td>
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<tr>
<td>HIT1031</td>
<td>Introduction to Software Engineering (Java Stream)</td>
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<tr>
<td>HIT2010</td>
<td>Business Programming 2 (VB Stream)</td>
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<tr>
<td>HIT1052</td>
<td>Software Development 2 (Java Stream)</td>
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<tr>
<td>HBM110</td>
<td>The Marketing Concept</td>
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<tr>
<td>HBE110</td>
<td>Microeconomics GR</td>
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<tr>
<td>HMB111</td>
<td>Quantitative Analysis</td>
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Note: Students without Year 12 Mathematics must do an enabling subject if they wish to study Quantitative Analysis.

**Stage 2**

**Semester 1**
- HIT2016 Database 1
- HIT2006 Business Computing
- Elective
- Elective

**Semester 2**
- HIT3085 E-Commerce Systems Infrastructure or HIT2020 Data Communications (Java Stream)
- HIT3017 Database 2
- HIT1091 Web Development
- Elective

**Stage 3**
- Optional IBL Year

**Stage 3 or 4**

**Semester 1**
- HIT3086 Information Technology Strategies
- HIT3084 E-Commerce: A Business Perspective
- Elective
- Elective

**Semester 2**
- HIT3044 Professional Issues in Information Technology
- HIT3034 Information Systems Project
- Elective
- Elective

Possible electives include the following:
- HIT2029 Advanced Web Technologies
- HIT2007 Business Computing Applications
- HIT2018 Database 3
- HIT2024 Introduction to Human-Computer Interaction
- HIT2028 Knowledge-Based Systems
- HIT2072 C++ for Programmers
- HIT2080 Introduction to Programming (C)
- HIT3010 Component Based Development

Note: Availability of all electives is subject to timetable constraints and prerequisite requirements. Students who have chosen the Visual Basic Stream may take Java subjects HIT1051 and HIT1052 as electives. Students who have chosen the Java Stream may take the Visual Basic subject HIT2010 as an elective.

**Entry requirements**
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Passes may be accumulated over more than one year.

Applicants who do have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed.

**Application procedure**
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

**Further information**
Contact the School of Information Technology
Telephone: +61 3 9214 5505
Email: itinfo@swin.edu.au
Website: www.it.swin.edu.au

**IO50 Bachelor of Information Technology**

VTAC code: 34311 (HECS), 35013 (Int. Fee)
2001 Clearly-in ENTER: 96.25

The Bachelor of Information Technology is concerned with the design, implementation and management of computer systems in all types of organisations. The skills required of an information technology specialist include systems analysis, systems design, programming, data management, information dissemination and interpersonal communications and management.

Throughout the program, students are exposed to a range of hardware and software to illustrate how technology can be used to solve typical business problems. By providing an infrastructure through which students can gain both technical knowledge and interpersonal skills, they can develop the abilities and skills important for effective participation and leadership in industry.

To ensure students develop the teamwork skills required as an information technology professional, there is a strong emphasis on group work in both the curricular and extracurricular parts of the program. The Industry-based Learning segments of the program also provide valuable experience within the commercial world, providing added exposure to the use of technology within industry.

Through a mix of university and industry-based Learning environments, this innovative course is designed to provide the future leaders in Australia’s information technology industry. Students gain ‘state-of-the-art’ skills in analysis, design, programming and implementation of systems, and the management skills necessary to apply information technology in the modern business world.

The program is sponsored by 30 of Australia’s top organisations and all students receive a scholarship of approximately $9,000 p.a. during their studies. Students spend two 20-week periods working in a sponsor organisation, gaining a broad exposure to the use of IT in business. The grant of a scholarship does not create, on completion of the course, any employment obligation on the part of the student or contributing organisations.


**Aims & Objectives**
- To provide an infrastructure through which students can gain both technical knowledge and interpersonal skills and develop the abilities and skills important for effective participation and leadership in industry.
- To ensure students develop the teamwork skills required as an information technology professional.

**Campus**
Hawthorn

**Career opportunities**
Graduates of the Bachelor of Information Technology will be well equipped to meet the requirements of both industrial and commercial organisations for information technology specialists. Technical skills such as systems analysis and design and project management are sought after by industry, with good opportunities available for progressing into management and leadership positions.

Since the commencement of the course all BIT graduates have obtained relevant opportunities available for progressing into management and leadership positions. The skills required of an information technology specialist include systems analysis, systems design, programming, data management, information dissemination and interpersonal communications and management.

**Professional recognition**
The degree is accredited at professional level towards membership of the Australian Computer Society.

**Course duration**
Three years full-time, including two twenty-week periods of Industry-based Learning and two summer semesters. This course is not offered on a part-time basis.
Structure

This course includes four normal semesters, two summer semesters and two twenty-week periods of Industry-based Learning. This provides a course which is essentially a four-year course completed in three calendar years.

Electives

It is recommended that students follow a sequence of business or management related studies from the areas of Accounting, Finance, Human Resource Management, Marketing, Management Science, or Social and Behavioural Science. Students may be permitted to take non-computing subjects from any area within Swinburne.

Course subjects

**Stage 1**

**Semester 1**

- HIT1151 Software Development 1A
- HIT1025 Introduction to Information Systems
- HIT2016 Database 1
- HBC110 Accounting for Success
- HBSH100 Behaviour and Communications in Organisations

**Semester 2**

- HIT1152 Software Development 2A
- HIT2006 Business Computing
- HIT1031 Introduction to Software Engineering
- HIT2005 Information Technology Infrastructure
- HIT1091 Web Development

Summer Semester

- HIT3017 Database 2
- HIT2013 COBOL Programming
- HBSH200 Organisation Behaviour

**Stage 2**

**Semester 1**

- HIT2100 Industry-based Learning (20 weeks)

**Semester 2**

- HIT3007 Business Computing Applications
- HIT3018 Database 3
- HIT3085 Electronic Commerce Systems Infrastructure

**Stage 3**

**Semester 1**

- HIT3036 Information Technology Strategies
- HIT3034 Information Systems Project

**Semester 2**

Industry-based Learning (20 weeks)

**Summer Semester**

- HIT3044 Professional Issues in Information Technology

Non-IT Electives

Students must take 1 to 2 IT electives. Availability of electives is subject to resource and time constraints. Students must have the appropriate prerequisites for the subject. Other electives may be chosen, subject to the approval of the Program Manager.

- HAH100 Introduction to Philosophy
- HAH103 Critical Thinking
- HBE110 Microeconomics
- HBE220 Macroeconomics

Entry requirements

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification. The course is primarily intended for high achieving school leavers. Only Australian citizens or permanent residents are eligible to apply.

VCE prerequisites: Units 3 & 4 - English (any) and Mathematics (any) or equivalent.

Prior to selection in the course all short-listed candidates are required to attend a briefing session on the course and an interview. The briefing explains in detail about the course and is designed to ensure that students enter the course with realistic expectations. Interviews are non technical and assess the candidate’s suitability for the course. Selection is based upon academic merit and interview.

Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Special Requirements

In addition to their application to VTAC, applicants must also apply directly to Swinburne University of Technology, School of Information Technology by September. To receive a Swinburne Bachelor of Information Technology application form please contact the Undergraduate Administrative Officer on (03) 9214 8763 or via our website at <http://www.it.swin.edu.au/courses/forms/britappform.pdf> where the form is available as a Microsoft document. Interviews will be held shortly after the end of the VCE examinations. Deferment of offered places will not be possible.

Further information

Contact the School of Information Technology

- Telephone: +61 3 9214 5505
- Email: itinfo@swin.edu.au
- Website: www.it.swin.edu.au/

**ZO63 Bachelor of Science (Computer Science and Software Engineering)**

VTAC code: 34431 (HECS), 34433 (Int. Fee)

2001 Clearly-in ENTER: 85.35

The Bachelor of Science (Computer Science and Software Engineering) is one of the most popular computing courses in Victoria. The course focusses on the object-oriented approach to software development, accepted by industry as a key technology for the future. The course provides an extensive education in contemporary approaches to the analysis, design and implementation of large-scale systems, along with a sound understanding of the traditional aspects of computer science such as hardware and operating systems. Like all IT courses at Swinburne, this program pays particular attention to the human factors involved in the development, deployment and use of computer-based systems.

There is a focus on applications involving multimedia, and on web-based systems, with an emphasis on the design of effective human-computer interfaces. A range of options in the final year of the course allows students to study advanced subjects in areas such as software engineering, computer networks, database, knowledge-based systems and human-computer interaction. The acquired skills and knowledge are consolidated in a major team project for an external client in the final year and in an optional supervised industry based learning year. The course uses Java as the first programming language, recognising the role of this...
language in the development of web-based systems. Students then develop skills in the C++ programming language.

Graduates of this course will have extensive skills in software development, particularly relating to medium and large scale projects, will have developed experience in working on team projects, and will have well developed oral and written communication skills. The course involves the use of the most up-to-date technology and methods, and includes a major emphasis on software development for multimedia applications on the web. The course is oriented towards applications in areas such as defence, aerospace and medicine, where complex software plays a major role, often of a safety-critical nature, as well as in businesses that require extensive computer support, such as banking and manufacturing.

This course includes an optional Industry-based Learning (IBL) segment, in which students are placed in paid supervised employment as part of their degree program. IBL gives students practical experience to add to their academic studies, and is a proven advantage in the graduate job market. All IBL placements are subject to availability and require suitable English language skills.

**Aims & Objectives**

Graduates of this course will possess:

- The skills necessary for working in a software development team on a large scale project.
- A deep understanding of the process of software development.
- Skills in the object-oriented approach to systems analysis, design and implementation.
- A high level of skill in developing software in Java and C++.
- The communication and management skills required to manage software development projects successfully.
- An understanding of the social, legal and ethical issues confronting the software engineering profession.
- Knowledge and experience in human-computer interaction, knowledge-based systems, database systems and data communications.

**Campus**

Hawthorn

**Career opportunities**

Graduates will typically find employment in organisations engaged in medium to large-scale software development. Initially graduates are usually employed in technical areas such as programming and systems analysis and design, internet systems development. They are well-prepared for progression into project leadership and management positions as their experience develops.

**Professional recognition**

The degree is accredited at professional level towards membership of the Australian Computer Society (ACS).

**Course duration**

Three years full-time. An optional and additional year of Industry-based Learning is also available.

**Course subjects**

**Stage 1**

**Semester 1**

- HIT1015 Computer Systems
- HIT2016 Database 1
- HIT1051 Software Development 1
- HMS131 Mathematics for Computing A
- HIT0003 CSSE Transition Program

**Semester 2**

- HIT1091 Web Development
- HIT1031 Introduction to Software Engineering
- HIT1052 Software Development 2
- HMS132 Mathematics for Computing B

**Stage 2**

**Semester 1**

- HIT2046 IT in Context
- HIT2024 Introduction to Human-Computer Interaction
- HIT2153 Software Development 3A
- HIT2156 Software Project Management

**Semester 2**

- HIT2020 Data Communications
- HIT2014 Operating Systems
- HIT3054 C++ for Java Programmers
- Elective

**Stage 3**

Optional Industry-based Learning (IBL) Year

**Stage 4**

**Semester 1**

- HIT3102 Intelligent Agents
- HIT3058 Software Engineering Project
- Elective

**Semester 2**

- HIT3044 Professional issues in Information Technology
- HIT3058 Software Engineering Project
- Elective
- Elective

**Electives**

Students may select five elective subjects in their final year, of which three must be IT electives. The availability of electives is subject to timetabling and resource constraints. IT electives to be offered may include the following:

- HIT2010 Business Programming 2
- HIT3047 Real-Time Programming
- HIT3057 Software Testing and Reliability
- HIT3045 Personal Software Process
- HIT3039 Local Area Networks
- HIT3064 Wide Area Networks
- HIT3017 Database 2
- HIT3018 Database 3
- HIT3087 Advanced Java
- HIT3010 Component Based Development
- HIT3028 Interactive Systems Design
- HIT3038 Information Technology Strategies
- HIT3040 Multimedia Systems
- HIT3050 Evolutionary & Neural Computing
- HIT3084 E-Commerce: A Business Perspective
- HIT4089 Engineering for Human-Computer Interaction
- HIT3142 Object Oriented Modelling
- HIT3157 Large Scale System Design
- HIT3063 UNIX Systems Programming
- HIT3065 Windows Programming

**Entry requirements**

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - English and a study score of at least 20 in either Mathematical Methods or Specialist Mathematics. A bonus is awarded to applicants who have successfully completed Units 3 & 4 Physics, Information Technology: Information Systems and/or Specialist Mathematics. Passes may be accumulated over more than one year.
Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

**Application procedure**
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

**Further information**
Contact the School of Information Technology
Telephone: +61 3 9214 5505
Email: itinfo@swin.edu.au.
Website: www.it.swin.edu.au/

**Z160 Bachelor of Science (Computing)**
VTAC code: 34501 (HECS)
2001 Clearly-in ENTER: Individual offer

The Bachelor of Science (Computing) is a two year course, available to students who have completed an appropriate IT/Computing associate diploma, two year diploma or equivalent at a TAFE institution or equivalent. Pathways programs such as this have become extremely popular over the past few years as an alternative method for entry into a degree course.

The course reflects the emerging prominence of the object-oriented approach to software development and has an emphasis on multi-media software development for the web. It offers an integrated approach to the analysis, design and implementation of computer systems which assists students to embrace the whole software development lifecycle. It provides students with the knowledge, skills and attitudes to make them valuable members of any software development team, where those skills are built upon a science base which includes topics such as database, artificial intelligence and data communications.

The course uses Java as the first programming language, recognising this language's role in the development of web-based systems. Students then develop skills in the C++ programming language.

Students who achieve satisfactory results during the course may apply to undertake an additional year of study, enabling them to graduate with an honours degree.

**Aims & Objectives**
Graduates of this course will possess:
- The skills necessary for working in a software development team.
- An understanding of the process of software development.
- Skills in the object-oriented approach to systems analysis, design and implementation.
- High-level skills in developing software in Java and C++.
- An understanding of the social, legal and ethical issues confronting the software engineering professional.
- Knowledge and experience in human-computer interaction, knowledge-based systems, database systems and data communications.

**Campus**
Hawthorn

**Career opportunities**
- Computer programming.
- Internet systems development.
- Multimedia software development.
- Systems analysis and design.
- Database administration.
- Computer network support.

**Professional recognition**
This course is accredited at professional level towards membership of the Australian Computer Society (ACS).

**Course duration**
Two years full-time.

**Structure**
Four subjects will generally be taken during each academic semester, with a total of around 12 hours per week contact time (including lectures, classes, tutorials and laboratory sessions). A typical student's average weekly workload during a semester is expected to be 50 hours. Students may choose two elective subjects in the final year of the course, enabling them to explore particular interests. The acquired skills and knowledge are consolidated in a project subject in the final year.

Depending on TAFE subjects and results, students may obtain up to 3 further exemptions, in particular, credits in the Swinburne TAFE subjects ITB402 and ITSD01 give exemptions in HIT2016.

**Course subjects**

**Stage 1**

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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</thead>
<tbody>
<tr>
<td>HIT1051 Software Development 1</td>
<td>HIT1031 Introduction to Software Engineering</td>
</tr>
<tr>
<td>HIT2016 Database1</td>
<td>HIT1052 Software Development 2</td>
</tr>
<tr>
<td>HIT2024 Introduction to Human-Computer Interaction</td>
<td>HIT2020 Data Communications</td>
</tr>
<tr>
<td>HIT1091 Web Development</td>
<td>HIT2082 Advanced Web Technologies</td>
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</table>

**Stage 2**

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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</thead>
<tbody>
<tr>
<td>HIT3044 Professional Issues in Information Technology</td>
<td>HIT3054 C++ for Java Programmers</td>
</tr>
<tr>
<td>HIT2153 Software Development 3A</td>
<td>HIT3061 Software Team Project</td>
</tr>
<tr>
<td>HIT2058 Software Project Management</td>
<td>IT Elective</td>
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<tr>
<td>IT Elective</td>
<td>IT Elective</td>
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</tbody>
</table>

**Electives**

- Availability of electives is subject to timetabling and resource constraints. Electives may include the following:
  - HIT2010 Business Programming 2
  - HIT3057 Software Testing and Reliability
  - HIT3045 Personal Software Process
  - HIT3017 Database 2
  - HIT3018 Database 3
  - HIT3039 Local Area Networks
  - HIT3064 Wide Area Networks
  - HIT3050 Evolutionary and Neural Computing
  - HIT3038 Knowledge-Based Systems
  - HIT3036 Information Technology Strategies
  - HIT3040 Multimedia Systems
  - HIT3142 Object Oriented Modelling
  - HIT3063 UNIX Systems Programming
  - HIT3084 E-Commerce: A Business Perspective
  - HIT3087 Advanced Java
  - HIT3047 Real Time Programming
  - HIT3002 Introduction to Artificial Intelligence
  - HIT3028 Interactive Systems Design

**Entry requirements**
Applicants must have completed an appropriate TAFE Information Technology/Computing associate diploma, two year diploma or equivalent. The course may be...
in business, science or engineering, and must have its major emphasis in IT/Computing.

VCE prerequisites: Units 3 & 4 English.

Preference may be given to those who have successfully completed VCE Units 3 & 4 Mathematics or equivalent.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Information Technology
Telephone: +61 3 9214 5505
Email: itinfo@swin.edu.au
Website: www.it.swin.edu.au/

Z161 Bachelor of Science (Information Technology)

The Bachelor of Science (Information Technology) builds on the knowledge and skills gained by students in their prior studies overseas and focuses on software development using C++ and Java, software engineering and multimedia software development for the Internet.

Aims & Objectives
The major aim of the course is to provide graduates equipped with the knowledge, skills and attitudes to make them valuable members of any team developing software in the contemporary environment. Graduates of this course will have extensive skills in software development, experience in working on team projects, and will have well developed oral and written communication skills.

Campus
Hawthorn

Professional recognition
Recognition of the course at Professional Level (the highest level) with the Australian Computer Society.

Course duration
One year full-time (3 semesters).

Structure
This program provides one calendar year of further study (equivalent to 1.25 academic years’ study). The degree consists of 10 subjects, each of 12.5 credit points, taken over a period of a calendar year (two normal semesters and a summer semester). The typical student’s average weekly workload during a normal semester is expected to be 50 hours. Up to 2 subject exemptions may be possible following consultation with the Program Manager.

Course subjects

<table>
<thead>
<tr>
<th>Semester 1</th>
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<tbody>
<tr>
<td>Elective</td>
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<tr>
<th>Semester 2</th>
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<tr>
<td>HIT2057</td>
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<tr>
<td>Software Testing and Reliability</td>
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<th>Semester 3</th>
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<tr>
<td>Elective</td>
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<td>Elective</td>
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</table>

Note: Students who have completed the equivalent of HIT2024 are required to do an elective subject instead and take HIT4089 Engineering for Human Computer Interaction in Semester 2.

Electives
Please note that elective choices are subject to timetabling and prerequisite constraints.

- HIT3002 Introduction to Artificial Intelligence
- HIT3017 Database 2
- HIT3018 Database 3
- HIT3028 Interactive Systems Design
- HIT3036 Information Technology Strategies
- HIT3038 Knowledge Based Systems
- HIT3041 Advanced Web Development
- HIT3045 Personal Software Process
- HIT3047 Real Time Programming
- HIT3050 Evolutionary and Neural Computing
- HIT3057 Software Testing and Reliability
- HIT3063 UNIX Systems Programming
- HIT3064 Wide Area Networks
- HIT3065 Windows Programming
- HIT3039 Local Area Networks
- HIT3157 Large Scale System Design
- HIT4089 Engineering for Human Computer Interaction

Entry requirements
An appropriate diploma or equivalent, in an information technology field, from a polytechnic, college or equivalent in Singapore, Malaysia, Hong Kong at an acceptable level of achievement. Students with equivalent qualifications and/or knowledge from Australia or other countries will also be considered for admission.

Applicants will also be expected to have satisfied Swinburne’s English language requirements.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Information Technology
Telephone: +61 3 9214 5505
Email: itinfo@swin.edu.au
Website: www.it.swin.edu.au/

Z044 Bachelor of Software Engineering

VTAC code: 34961 (HECS), 34963 (Int. Fee)
2001 Clearly-in ENTER: 86.85

The Bachelor of Software Engineering (BSE) is an exceptionally innovative and challenging engineering course that provides graduates with substantial advanced skills in software engineering. The course allows students to situate that knowledge soundly within an appreciation of the broader, traditional engineering disciplines. It provides students with the knowledge and practice base characterising the graduate engineer.

The course focusses on the object-oriented approach to software development, accepted by industry as a key technology for the future. It provides an extensive education in contemporary approaches to the analysis, design and implementation of large-scale systems, along with a sound understanding of the traditional aspects of computer science such as hardware and operating systems. There is also a focus on applications involving multi-media, and on web-based systems, with an emphasis on the design of effective human-computer interaction.

An attractive set of electives allows students to explore specialist areas of computer science/software engineering at an advanced level. The incorporation of an engineering minor ensures that the students are also able to enhance their engineering knowledge in core engineering disciplines.

A range of options in the final year of the course allows students to study advanced subjects in areas such as computer networks, database, knowledge-
based systems and human-computer interaction. The acquired skills and knowledge are consolidated in a major team project for an external client in the final year and in an optional supervised Industry-Based Learning year.

Graduates will be well equipped to meet the predicted growth in industry demand for professionals in information technology, made possible by an explosion of digital media content, a transition from professional to mass consumer markets, and international trading of new information products on a scale comparable to that in traditional manufactured goods. Graduates will have extensive skills in software development, particularly relating to medium and large scale projects. They will also have experience in working on team projects, and will have well-developed oral and written communication skills.

Aims & Objectives

Graduates of this course will possess:

- Knowledge of the fundamentals of Mathematics, Computer Science and Physics, which constitute the academic underpinnings of the Software Engineering discipline.
- Knowledge of the methods (the management principles underpinning analysis, design, implementation and maintenance), techniques (approaches and notations) and tools (software engineering environments) of contemporary Software Engineering.
- Skills in situating knowledge obtained within the core engineering disciplines.
- Advanced skills in management of resources and technology, as required of an engineering professional.
- The skills necessary for working in a software development team on a large scale project.
- A deep understanding of the process of software development.
- Skills in the object-oriented approach to systems analysis, design and implementation.
- High-level skills in developing software in Java and C++.
- The communication and management skills required to manage software development projects successfully.
- An understanding of the social, legal and ethical issues confronting the software engineering profession.
- Knowledge and experience in human-computer interaction, knowledge-based systems, database systems and data communications.

Campus

Hawthorn

Career opportunities

Graduates will typically find employment in organisations engaged in medium to large-scale software development. The course is oriented towards applications in areas such as aerospace, medicine and defence, where software plays a major role, often of a safety-critical nature. Initially graduates are employed in technical areas such as programming and systems analysis and design, with good opportunities available for progression into project leadership and management positions.

Professional recognition

The degree has accreditation with The Institution of Engineers, Australia (IEAust) and graduates are also eligible for the professional level of membership of the Australian Computer Society (ACS).

Course duration

Four years full-time plus either one year Industry-based Learning (IBL) or twelve weeks of relevant industry experience.

Structure

Total student contact hours, including lectures, classes, tutorials and laboratory sessions, will be approximately twelve to sixteen hours per week during the academic semesters. In each practical subject, students will be expected to spend three or four hours per week in unsupervised laboratories or using a home computer in addition to formal class time.

Students who omit the year of Industry-Based Learning (IBL) must take at least twelve weeks of relevant industry experience prior to graduation.

Course subjects

Stage 1

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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</thead>
<tbody>
<tr>
<td>HIT1015 Computer Systems</td>
<td>HIT1152 Software Development 2A</td>
</tr>
<tr>
<td>HMS111 Engineering Mathematics 1</td>
<td>HIT1031 Introduction to Software Engineering</td>
</tr>
<tr>
<td>HIT1151 Software Development 1A</td>
<td>HIT182 Electronic Systems</td>
</tr>
<tr>
<td>HIT2016 Database 1</td>
<td>HMS112 Engineering Mathematics 2</td>
</tr>
</tbody>
</table>

Stage 2

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td>HIT2024 Introduction to Human-Computer Interaction</td>
<td>HIT3054 C++ for Java Programmers</td>
</tr>
<tr>
<td>HIT2153 Software Development 3A</td>
<td>HIT2014 Operating Systems</td>
</tr>
<tr>
<td>HIT2056 Software Project Management Engineering Minor Stream</td>
<td>HIT3041 Advanced Web Development, OR</td>
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<td></td>
<td>HIT2082 Advanced Web Technologies (with entrance test)</td>
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</table>

Stage 3

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td>HIT3102 Intelligent Agents</td>
<td>HIT3045 Personal Software Process</td>
</tr>
<tr>
<td>HIT3047 Real Time Programming</td>
<td>HIT3057 Software Testing and Reliability</td>
</tr>
<tr>
<td>HIT2020 Data Communications</td>
<td>HIT</td>
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<tr>
<td></td>
<td>Engineering Minor Stream</td>
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</tbody>
</table>

Stage 4

Optional Industry-Based Learning year. Students who omit the Industry-based Learning (IBL) must take at least 12 weeks of relevant industry experience prior to graduation.

Stage 5

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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</thead>
<tbody>
<tr>
<td>HIT4058 Software Engineering Project A</td>
<td>HIT3044 Professional Issues in Information Technology</td>
</tr>
<tr>
<td>HIT3157 Large Scale System Design</td>
<td>HIT4058 Software Engineering Project A</td>
</tr>
<tr>
<td>IT Elective, OR Engineering Minor Stream</td>
<td>IT Elective, OR Engineering Minor Stream</td>
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<tr>
<td></td>
<td>IT Elective, OR Engineering Minor Stream</td>
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</tbody>
</table>

Note: Students take 2 subjects in the Engineering Minor Stream in Stage 5. Students may choose to study HIT3044 Professional Issues in Information Technology in Semester 1 in place of an IT elective, in which case they will take an additional IT elective in Semester 2.

Engineering Minor Streams

Engineering Minor Streams are currently offered in Digital Electronics, Telecommunications and Robotics. Subjects studied are:
Digital Electronics
HMS213 Engineering Mathematics 3B
HET210 Electronics
HET431 Digital Electronic Design
HET220 Embedded Microcontrollers
HET310 Analog Electronic Design OR
HET229 Digital Signal and Image Processing
HMS214 Engineering Mathematics 4B
HES1125 Mechanics of Structures

Telecommunications
HMS213 Engineering Mathematics 3B
HMS214 Engineering Mathematics 4B
HET314 Communication Principles
HET315 Communications Information Theory
HET326 Network Engineering (prerequisite HMS214)
HET410 Network Administration OR
HET229 Digital Signal and Image Processing

Note: Students choosing this stream may be permitted to study an additional telecommunication subject in final year, replacing one of the IT electives.

Electives
Availability of electives is subject to timetabling and resource constraints. IT electives to be offered may include the following:
HIT3017 Database 2
HIT3018 Database 3
HIT3028 Interactive System Design
HIT3068 Information Technology Strategies
HIT2029 Local Area Networks
HIT3040 Multimedia Systems
HIT3142 Object-Oriented Modelling
HIT3050 Evolutionary and Neural Computing
HIT3084 Wide Area Networks
HIT3084 E-Commerce: A Business Perspective
HIT3087 Advanced Java
HIT4089 Engineering for Human-Computer Interaction
HIT3063 UNIX Systems Programming
HIT3065 Windows Programming

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.
VCE prerequisites: Units 1 & 2 - Physics; Units 3 & 4 - English and a study score of at least 25 in either Specialist Mathematics or Mathematical Methods. A bonus is awarded to applicants who have successfully completed Units 3 and 4 Physics, Information Technology: Information Systems and/or Specialist Mathematics. Passes may be accumulated over more than one year.
Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Information Technology
Telephone: +61 3 9214 5505
Email: it.info@swin.edu.au
Website: www.it.swin.edu.au/

DOUBLE DEGREES

A067 Bachelor of Information Systems / Bachelor of Business
VTAC code: 34561 (HECS), 34563 (Int. Fee)
2001 Clear-in ENTER: 80.65

The Bachelor of Information Systems/Bachelor of Business double degree offers students a program in information systems with specialist studies in business practices. Students select Information Systems subjects to develop specialist skills in the analysis and design of computer based information systems and the management of information technology. The Business discipline covers the areas of accounting, economics, business law, organisation behaviour/human resource management and quantitative analysis.

Students must satisfy the course requirements of both the Bachelor of Information Systems and the Bachelor of Business to be eligible for the double degree.

The course includes an optional Industry-based Learning (IBL) segment of up to twelve months, in which students are placed in paid, supervised employment as part of their degree course. IBL gives students practical experience to add to their academic studies and is a proven advantage in the graduate job market. All IBL placements are subject to availability and require suitable English language skills.

Aims & Objectives
The course is designed to provide students with a complete study of business practices leading to a choice of generalist or specialist career in the utilisation of information technology to solve business problems.

Campus
Hawthorn

Career opportunities
This double degree opens up many employment opportunities, both in the public and private sectors. Graduates currently find employment in organisations that utilise information technology to support traditional business applications. Graduates will generally have an advantage in the market place compared to those with single discipline degrees.

The Information Systems Discipline provides graduates with the opportunity to specialise in a wide range of professional occupations, including:

- Systems analysis: analysis of the information needs of organisations leading to specification of requirements for computer-based information systems.
- Project management: definition and management of the scope and task structure of information systems projects and management of the resources for project implementation.
- Product support: facilitation of the effective use of major computer software products to solve information-processing problems.
- Software development: application of sound principles of design and construction to the development and implementation of computer-based information systems.
- User liaison: provision of software product and information systems methodology expertise to facilitate effective use of information technology for a variety of business and professional applications.

The Business discipline provides graduates with the opportunity to specialise in a wide range of professional occupations, including:

- Accounting: public accountant, finance business consulting, general management.
- Business Law: property officer, accountant, trust officer, administrator, company legal officer.
- Business Modelling: market analyst, business consultant.
- Economics: business management, management consultancy, economic research, international trade, financial analyst.
- Finance: investment advice, corporate treasury, money dealing, share broking, portfolio management.
- Manufacturing Management: service departments including marketing, human resources, management accounting within industry/processing settings such as food and beverages, fibres, minerals, or manufacture or consumer goods including motor vehicles, white goods or pharmaceuticals.
- Marketing: public relations, advertising, product/brand management, market research, direct marketing, international marketing.
Organisational Behaviour/Human Resource Management: administration, human resources, training management, quality coordinator, customer service.

Professional recognition
The course is accredited at professional level towards membership of the Australian Computer Society (ACS) and, with appropriate choice of business subjects, membership requirements of the Australian Society of Certified Practising Accountants (ASCPA).

Course duration
Four years full-time plus one year optional Industry-based Learning or eight years part-time.

Structure
Students take a total of 32 subjects (or equivalent) consisting of 14 to 16 Information System subjects, 6 foundation Business subjects, at least 6 post-core Business subjects, which constitute a major in a Business discipline and 4 to 6 other subjects in Business, Arts or Social Sciences.

There are two optional streams:
Stream A emphasises the structured approach with programming in Visual Basic. Stream B emphasises the object-oriented approach with programming in Java.

Electives
Students must meet the prerequisite requirements of the elective they select. Availability of all electives is subject to timetabling and resource constraints. Students must select at least one Stream B or two Stream A IT electives and 12 other elective subjects. The other electives must include at least one major (6 post-core subjects) in a business discipline.

The available business disciplines are:
- Accounting
- Business Law
- Business Modelling
- Economics
- Finance
- Human Resource Management/Organisation Behaviour
- Manufacturing Management
- Marketing

The remaining six electives may be taken from IT, Business, Arts or Social Sciences, with at most two being IT subjects.

Arts and Social Science electives could include:
- Asian studies
- Australian studies
- Cultural studies
- European studies
- Italian
- Japanese
- Literature
- Media studies
- Sociology
- Political studies
- Psychology
- Philosophy and Cultural Inquiry

Course subjects

Stage 1

Semester 1

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>HIT1025</td>
<td>Introduction to Information Systems</td>
</tr>
<tr>
<td>HIT1009</td>
<td>Business Programming 1 (VB Stream), OR</td>
</tr>
<tr>
<td>HIT1051</td>
<td>Software Development 1 (Java Stream)</td>
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<tr>
<td>HBC110</td>
<td>Accounting for Success</td>
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<td>HBB110</td>
<td>Organisations and Management</td>
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Semester 2

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<td>HIT2010</td>
<td>Business Programming 2 (VB Stream), OR</td>
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<td>HIT1052</td>
<td>Software Development 2 (Java Stream)</td>
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<td>HIT2049</td>
<td>Systems Analysis and Design (VB Stream), OR</td>
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<tr>
<td>HIT1031</td>
<td>Introduction to Software Engineering (Java Stream)</td>
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<td>HMB111</td>
<td>Quantitative Analysis</td>
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<td>The Marketing Concept</td>
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Stage 2

Semester 1

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<td>HIT2016</td>
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<td>HBE110</td>
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<td>HBL110</td>
<td>Legal Environment of Business</td>
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Semester 2

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<td>HIT3017</td>
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<tr>
<td>HIT3085</td>
<td>E-Commerce Systems Infrastructure, OR</td>
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<tr>
<td>HIT2020</td>
<td>Data Communications (Java Stream)</td>
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<td>HIT1091</td>
<td>Web Development</td>
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Stage 3

Semester 1

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<tbody>
<tr>
<td>HIT3036</td>
<td>Information Technology Strategies</td>
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<tr>
<td>HIT3084</td>
<td>E-Commerce: A Business Perspective</td>
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Semester 2

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<tbody>
<tr>
<td>HIT3034</td>
<td>Information Systems Project</td>
</tr>
<tr>
<td>HIT3044</td>
<td>Professional Issues in Information Technology</td>
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</tbody>
</table>

Stage 4

Optional year of Industry-based Learning (IBL)

Stage 5

Semester 1

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<tbody>
<tr>
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<tr>
<td>HIT3018</td>
<td>Database 3</td>
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<tr>
<td>HIT2024</td>
<td>Introduction to Human Computer Interaction</td>
</tr>
<tr>
<td>HIT3084</td>
<td>E-Commerce: A Business Perspective</td>
</tr>
<tr>
<td>HIT2080</td>
<td>Introduction to Programming (C)</td>
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<tr>
<td>HIT2082</td>
<td>Advanced Web Technologies</td>
</tr>
<tr>
<td>HIT3072</td>
<td>C++ for Programmers</td>
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<tr>
<td>HIT1091</td>
<td>Web Development</td>
</tr>
<tr>
<td>HIT3010</td>
<td>Component Based Development</td>
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<tr>
<td>HIT3038</td>
<td>Knowledge Based Systems</td>
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IT Electives include:

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<tr>
<td>HIT3038</td>
<td>Knowledge Based Systems</td>
</tr>
</tbody>
</table>
Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.
VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Passes may be accumulated over more than one year.
Applicants who do have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Information Technology
Telephone: +61 3 9214 5505
Email: itinfo@swin.edu.au.
Website: www.it.swin.edu.au/

HONOURS YEAR

AO68 Bachelor of Information Systems (Honours)
The Bachelor of Information Systems (Honours) course provides students with demonstrated academic ability the opportunity to pursue their undergraduate studies to an advanced level, to deepen their intellectual understanding in their major field and to develop their research skills. The honours course is a recognised point of entry into postgraduate research studies.
Students concentrate on their chosen major area, gaining a better understanding and practicing appropriate research techniques. The requirement to complete a substantial original piece of research for their thesis ensures that honours graduates develop their abilities to conceptualise problems, devise research strategies and carry out individual research work under the supervision of a member of staff with expertise in the area.

Campus
Hawthorn

Career opportunities
For students wishing to seek employment following their degree, the Honours course affords the opportunity to extend their knowledge of information systems and to specialise in an area within it. The course’s strong orientation to research provides an introduction to professional design practice in an educational environment. Students who are selected for this program undertake a variety of professional consultancy-based design projects under the guidance of lecturing staff and industry mentors.

Course duration
One year full-time.

Structure
Students enrol in an equivalent of 8 subjects, 4 coursework subjects and an equivalent of 4 Information Systems Honours thesis subjects. All students do a research methods unit plus a major research project. In addition, students may undertake approved advanced coursework subjects from other schools or institutions. Alternatively, Information Systems Honours reading subjects may be chosen.

Entry requirements
To be eligible for admission to the Bachelor of Information Systems (Honours) course, a student must hold a Bachelors (pass) degree from Swinburne University of Technology or another recognised university (or equivalent) or have completed all the requirements for a Bachelor of Information Systems (pass) degree. The student must have demonstrated a high level of academic achievement overall and an excellent academic record in their chosen major study, especially at third year level.

Application procedure
Application should be made direct to the School of Information Technology.
### Course subjects

#### Year 1

**Semester 1**
- HDCP101A Core Program A
- HDGD102A Design Practice 1A
- HDHCT12A Design History & Critical Theory 1A, OR
  HDHCT12C Ideas Culture and Communication 1C (international students only)

**Semester 2**
- HDCP101B Core Program B
- HDGD102B Design Practice 1B
- HDHCT12B Design History & Critical Theory 1B, OR
  HDHCT12D Ideas Culture and Communication 1D (for international students only)

#### Year 2

**Semester 1**
- HDGD201A Communication 2A
- HDGD202A Design Studio 2A
- HDGD203A Design Practice 2A
- HDHCT3 Modernism & Mass Culture

**Semester 2**
- HDGD201B Communication 2B
- HDGD202B Design Studio 2B
- HDGD203B Design Practice 2B
- HDHCT4 Modern/Postmodern

#### Year 3

**Semester 1**
- HDGD301A Communication 3A
- HDGD302A Design Practice 3A
- HDHCT5 Design and the Production of Culture, OR
  LEB300 Managing the Transition to Global Business
  Elective
One subject from the following:
- HDTYP303 Publication Design 2
- HDIM303 Image Based Design
- HD3D303 Interface Design
  Or for the IBL stream:
- HDIBL333 IBL Placement (37.5 credit points)
- HDHCT5 Design and the Production of Culture, OR
  LEB300 Managing the Transition to Global Business
  Elective

**Semester 2**
- HDGD301B Communication 3B
- HDGD302B Design Practice 3B
- HDHCT6 Commodity Design and Lifestyles, OR
  LEB300 Managing the Transition to Global Business
  Elective
One subject from the following:
- HDTYP303 Publication Design 2
- HDIM303 Image Based Design
- HD3D303 Interface Design
  Or for the IBL stream:
- HDIBL333 IBL Placement (37.5 credit points)
- HDHCT6 Commodity Design and Lifestyles, OR
  LEB300 Managing the Transition to Global Business
  Elective

#### Years 1-3 of the BDes, leading to:

**Year 4**

**Semester 1**
- HDGD401A Design Studio 4A
- HDGD402A Advanced Research Project A
- HDRES400 Design Research, OR
  LEB304 Entrepreneurship and Innovation for Competitive Advantage

**Semester 2**
- HDGD401B Design Studio 4B
- HDGD402B Advanced Research Project B
- HDRES400 Design Research, OR
  LEB305 Managing Strategic Cost and Performance

### BDes(Hons)(Graphic Design) - IBL Stream

#### Years 1-3 of the BDes, leading to:

**Year 4**

**Semester 1**
- HDDC401 Studio Practice (25 credit points)
- HDDC402 Advanced Research Project
- HDRES400 Design Research, OR
  LEB304 Entrepreneurship and Innovation for Competitive Advantage

**Semester 2**
- HDDC401 Studio Practice (25 credit points)
- HDDC402 Advanced Research Project
- HDRES400 Design Research, OR
  LEB305 Managing Strategic Cost and Performance

### Entry requirements

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any).

Applicants are advised to undertake an art-related study such as art or graphic communication in Units 3 & 4 to assist in the development of a folio. In addition, selection will involve a written application, folio appraisal and interview.

Applicants who do not have a Year 12 qualification and no other tertiary study may also be considered for acceptance into this program. Selection will be based on ‘Recognition of Prior Learning’ together with written application, folio appraisal and interview.

### Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

In addition to the VTAC application, all applicants must write to the School Administrator giving name, address and telephone number, VTAC course code, and stating that they wish to participate in the preselection program. No requests will be processed after 27 September 2002. No telephone requests will be accepted. A preselection kit incorporating application form will be posted on 2 October 2002.

All applicants must submit their preselection material as advised on the preselection kit. Failure to complete the preselection material requirements by the 31 October 2002 will result in the applicant being ineligible to be considered for selection.

All applicants will be notified by mail regarding their selection for an interview. Interviews will be held at an appointed time at the National School of Design.

### Further information

Contact the National School of Design

Telephone: +61 3 9214 6755

Email: NSDenquiry@swin.edu.au

Website: www.swin.edu.au/design
DID10 Bachelor of Design (Industrial Design)
DID20 Bachelor of Design (Honours) (Industrial Design)

VTAC code: 36201 (HECS), 36203 (Int. Fee)
2001 Clearly-in ENTER: Individual offer

Industrial Design is a broad-based discipline in which designers participate in the development of products and systems associated with all areas of human activity and the environment. In consultation with the profession, the course provides a learning environment in which students will experience a proportional relationship between design theory and design practice with a strong emphasis on the design process and creative problems. The first two years of the course are common to each of the degree/honours streams.

Industry-based Learning (IBL)

At the completion of second year, students with a credit or above in all subjects may be selected for the honours program. They are required to spend the whole of the third year working in an industrial situation organised by the School. This third year enables the student to begin professional practice, supervised by senior staff. During the year in industry, students are required to attend the University for one day per week. In the final year students work in a professional atmosphere, with emphasis given to developing the student’s special capabilities.

Swinburne Design Centre

Degree students who achieve an overall high standard in their final year may qualify to apply for the Swinburne Design Centre Honours program. This Honours program provides an introduction to professional design practice in an educational environment. Students who are selected for this program undertake a variety of professional consultancy-based design projects under the guidance of lecturing staff and industry mentors.

Campus

Prahran

Career opportunities

Product design for and within manufacturing industries or design consultancies, exhibition, environmental and furniture design, stage and set design, self-employed designers or manufacturers.

Professional recognition

Membership of the Design Institute of Australia.

Course duration

Three years full-time or six years part-time (pass degree), four years full-time or eight years part-time (Honours).

Structure

The Bachelor of Design (Industrial Design) course will operate under a student workload model based on 100 credit points for a full time academic year. To qualify for the award a student must complete, or have been granted exemption for, the subjects below.

Students successfully completing an IBL component will be awarded 75 credit points in excess of the 300 awarded for the coursework required to qualify for the Bachelor of Design. Students undertaking an IBL out-placement in Year 3 will need to complete their 300 coursework units in Year 4.

A Bachelor of Design (Honours) will be awarded to students who complete a research component for which a further 25 credit points will be awarded.

Work expected of students outside normal timetabled hours, in keeping with the environment. Students who are selected for this program undertake a variety of professional consultancy-based design projects under the guidance of lecturing staff and industry mentors.

Year 3 Semester 1

HDID301A Design Studio 3A
HDID302A Design Practice 3B
HDID304 Technology 3, OR Elective (on approval)
HDIEX102 Interior Design- Technology 1
HDHCT5 Design and the Production of Culture, OR
LEB306d Managing the Transition to Global Business
Or IBL stream:
HDIDL333 IBL Placement (37.5 credit points)
HDHCT5 Design and the Production of Culture, OR
LEB300d Managing the Transition to Global Business

Semester 2

HDID301B Design Studio 3B
HDID302B Design Practice 3B
HDID304 Technology 3, OR Elective (on approval)
HDIEX102 Interior Design- Technology 1
HDHCT6 Commodity Design and Lifestyles, OR
LEB306d eCommerce Product Development and Management
Or IBL stream:
HDIDL333 IBL Placement
HDHCT6 Commodity Design and Lifestyles
LEB306d eCommerce Product Development and Management

BDes(Hons)(Industrial Design) - IBL and Studio Stream

Years 1-3 of the BDses, leading to:

Year 4

Semester 1

HDID401A Design Studio 4A
HID444A Advanced Research Project 4A
HDRES400 Design Research, OR
LEB304d Entrepreneurship and Innovation for Competitive Advantage

Semester 2

HDID401B Design Studio 4B
HID444B Advanced Research Project 4B
HDRES400 Design Research, OR
LEB305 Managing Strategic Cost and Performance

BDes(Hons)(Industrial Design) - Design Centre Stream

Years 1-3 of the BDses, leading to:
Year 4

Semester 1
HDIDCA01 Studio Practice
HD444 Advanced Research Project
HDRES400 Design Research, OR
LEB304 Entrepreneurship and Innovation for Competitive Advantage

Semester 2
HDIDCA01 Studio Practice
HD444 Advanced Research Project
HDRES400 Design Research, OR
LEB305 Managing Strategic Cost and Performance

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any).

Applications are advised to undertake an art-related study such as art or graphic communication in Units 3 & 4 to assist in the development of a folio. In addition, selection will involve a written application, folio appraisal and interview. Applicants who do not have a Year 12 qualification and no other tertiary study may also be considered for acceptance into this program. Selection will be based on recognition of prior learning together with written application, folio appraisal and interview.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

In addition to the VTAC application, all applicants must write to the School Administrator, giving name address and telephone number, VTAC course code, and stating that they wish to participate in the preselection program. No requests will be processed after the 27 September 2002. No telephone requests will be accepted. A preselection kit incorporating application form will be posted on 2 October 2002.

All applicants must submit their preselection material as advised on the preselection kit. Failure to complete the preselection material requirements by 31 October 2002 will result in the applicant being ineligible to be considered for selection.

All applicants will be notified by mail regarding their selection for an interview. Interviews will be held at an appointed time at the National School of Design. Interviews will be held at an appointed time at the National School of Design.

Further information
Contact the National School of Design
Telephone: +61 3 9214 6755
Email: NSDenquiry@swin.edu.au
Website: www.swin.edu.au/design

DHCT402 Bachelor of Design (Honours) (Design History and Critical Theory)

This program offers an alternative Honours stream for Bachelor of Design (Graphic Design) and Bachelor of Design (Industrial Design).

Campus
Prahran

Course duration
One year full-time.

Structure
The Bachelor of Design (Honours) (Design History and Critical Theory) is offered over twelve months full-time study in four subjects totalling 100 credit points.

Course subjects
Semester 1
DHCT400 Design Research
DHCT401 Research Methods

Semester 2
DHCT402 Electronic Writing
All applicants will be notified by mail regarding their selection for an interview. Interviews will be held at an appointed time at the National School of Design.

Further information
Contact the National School of Design
Telephone: +61 3 9214 6755
Email: NSDenquiry@swin.edu.au
Website: www.swin.edu.au/design

DMM10 Bachelor of Design (Multimedia Design)
DMM20 Bachelor of Design (Honours) (Multimedia Design)
VTAC course code: 36001 (HECS), 36003 (Int. Fee)
2001 Clearly-in ENTER: Individual offer

This course aims to produce graduates with a broad understanding of communication design, media studies and programming as applied to the World Wide Web and computer interactive mediums. Graduates will have highly developed and relevant skills in communication design for electronic mediums, typography, animation, 3D modelling, audio and video specialisation requirements as applied to electronic mediums.

industry-based Learning (IBL)
At the completion of second year, students with a credit or above in all subjects may be selected for the honours program. They are required to spend the whole of the third year working in an industrial situation organised by the School. This third year enables the student to begin professional practice, supervised by senior staff. During the year in industry, students are required to attend the University for one day per week. In the final year students work in a professional atmosphere, with emphasis given to developing the student's special capabilities.

Swinburne Design Centre
Degree students who achieve an overall high standard in their final year may qualify to apply for the Swinburne Design Centre Honours program. This Honours program provides an introduction to professional design practice in an educational environment. Students who are selected for this program undertake a variety of professional consultancy-based design projects under the guidance of lecturing staff and industry mentors.

Campus
Prahran

Career opportunities
Design consultancies, information technology companies, media and entertainment studios, advertising agencies and government instrumentalities.

Professional recognition
Graduates of the course are eligible for membership of the Australian Graphic Design Association (AGDA), membership of multimedia Industry Network (mmIN) and associate membership of the Design Institute of Australia (DIA).

Course duration
Three years full-time, six years part-time (pass degree). Four years full-time, eight years part-time (Honours).

Structure
The Bachelor of Design (Multimedia Design) course will operate under a student workload model based on 100 credit points for a full-time academic year. To qualify for the award a student must complete, or have been granted exemption for, the subjects listed below. All subjects have a value of 12.5 credit points unless otherwise indicated.

A Bachelor of Design (Honours) will be awarded to students who complete placement within the Design Centre (a hybrid educational and consultancy unit), in the School at the beginning of Year 4 (for Semester 7 and 8). Honours students will spend approximately 6 hours per week working on their research projects, for which a further 25 credit points will be awarded. Work expected of students outside normal timetabled hours, in keeping with related design courses, will usually be no less than one for one.

Year 2
Semester 1
HDEX201A Design Project 1
HDEX202A Communications 2
HDEX203A Technology 2
HDC73 Modernism & Mass Culture

Semester 2
HDEX201B Design Project 2
HDEX202B Communications 3
HDEX203B Technology 3
HDC74 Modern/Postmodern

Year 3
Semester 1
HDEX301A Design Project 3
HDEX303A Communications 4
HDEX302A Technology 4
HDHCT5 Design and the Production of Culture, OR
HDEX303 Work Placement

Semester 2
HDEX301B Design Project 4
HDEX303A Communications 5
HDEX302A Technology 5
HDC68 Commodity Design and Lifestyles, OR
HDEX303 Work Placement

Year 4
Semester 1
HDEX401 Design Project 5/6
HDER540 Design Research

Semester 2
HDEX401 Design Studio 45/6
HDER540 Design Research

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any)

Applicants are advised to undertake an art-related study such as art or graphic communication in Units 3 & 4 to assist in the development of a folio. In addition, selection will involve a written application, folio appraisal and interview.

Applicants who do not have a Year 12 qualification and no other tertiary study may also be considered for acceptance into this program. Selection will be based on recognition of prior learning together with written application, folio appraisal and interview.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

In addition to the VTAC application, all applicants must write to the School Administrator, giving name address and telephone number, VTAC course code, and stating that they wish to participate in the preselection program. No requests will be processed after 27 September 2002. No telephone requests will be accepted. A preselection kit incorporating application form will be posted on 2 October 2002.

All applicants must submit their preselection material as advised in the preselection kit. Failure to complete the preselection material requirements by 31 October 2002 will result in the applicant being ineligible to be considered for selection.
Electives
In specific instances, students may wish to take a subject offered in another school of the University in place of a subject offered in this course. In order for this to occur, a student must liaise with the Coordinator of the course in question and seek approval of the Head of Multimedia Design.

Course subjects
Year 1
Semester 1
HDCP101A Core Program A
HMD104A Multimedia Design Practice 1A
HALM104 Media Literature and Film: Text & Contexts
Semester 2
HDCP101B Core Program B
HMD104B Multimedia Design Practice 1B
HALM201 Special Issues in the Media
Year 2
Semester 1
HDGD201A Communication 2A
HMD200A Multimedia Design 2A
HMD204A Multimedia Design Practice 2A
HAM210 Popular Culture
Semester 2
HDGD201B Communication 2B
HMD203B Multimedia Design 2B
HMD204B Multimedia Design Practice 2B
HAM315 Information Society: A Global Perspective
Year 3
Semester 1
HDGD301A Communication 3A
HMD300A Multimedia Design 3A
HMD304A Multimedia Design Practice 3A
HAM312 Cinema Studies
or for the IBL Stream:
HDIBL333 IBL Placement
HAM312 Cinema Studies
Semester 2
HDGD301B Communication 3B
HMD303B Multimedia Design 3B
HMD304B Multimedia Design Practice 3B
HALM317 Literature/Media Project
or for the IBL Stream:
HDIBL333 IBL Placement
HALM317 Literature/Media Project
Year 4 (Honours Year)
Semester 1
HMD401A Individual Multimedia Project 4A
HMD400A Multimedia Technology 4A
HMD403A Group Multimedia Project 4A
Semester 2
HMD401B Individual Multimedia Project 4B
HMD400A Multimedia Technology 4A
HMD403A Group Multimedia Project 4A
Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.
VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any).
Applicants are advised to undertake art or any art-related study in Units 3 & 4 to assist in the development of a folio. It would also be an advantage to take two units from Maths, Physics, Computer Science, Technological Design and Development.
In addition selection will involve a written application, folio appraisal and interview.
Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study may also be considered for acceptance into this program. Selection will be based on recognition of prior learning together with written application, folio appraisal and interview.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).
In addition to the VTAC application, all applicants must write to the School Administrator, giving name address and telephone number, VTAC course code, and stating that they wish to participate in the preselection program. No requests will be processed after 27 September 2002. No telephone requests will be accepted. A preselection kit incorporating application form will be posted on 2 October 2002.
All applicants must submit their preselection material as advised on the preselection kit. Failure to complete the preselection material requirements by 31 October 2002 will result in the applicant being ineligible to be considered for selection.
All applicants will be notified by mail regarding their selection for an interview. Interviews will be held at an appointed time at the National School of Design.

Further information
Contact the National School of Design
Telephone: +61 3 9214 6755
Email: NSDenquiry@swin.edu.au
Website: www.swin.edu.au/design

ENGINEERING and TECHNOLOGY
Z029 Bachelor of Engineering (Biomedical Engineering)
VTAC code: 34681 (HECS), 34683 (Int. Fee)
2001 Clearly-in ENTER: 88.10
This degree maximises a student's career choices through a combination of the study of the physical aspects of human physiology and the related technologies for clinical care and biomedical monitoring.
Campus
Hawthorn
Career opportunities
Graduates may work in biomedical areas of either the public sector, for example in hospitals, or in the health industry. Alternatively, graduates may choose to work as an electrical engineer.
Course duration
Four years full-time. An optional and additional year of Industry-based Learning (IBL) may also be available.
Structure
Eight (8) academic semesters, each of four (4) subjects.
Course subjects
Semester 1
HMS111 Engineering Mathematics 1
HET124 Energy & Motion
HET102 Introductory Physiology
HET1000 Professional Engineering
Semester 2
HMS112 Engineering Mathematics 2
HES1125 Mechanics of Structures
The course is designed to develop:

- An understanding of the fundamentals of engineering and science.
- Mastery of the technical skills required for chemical engineering and bioprocess engineering.
- An appreciation for the history of engineering, and its place in modern society, and its likely future development.
- Literacy, numeracy, and high levels of competency in various aspects of computer aided engineering.
- An ability to pursue knowledge to the current frontiers.
- An understanding of the nature of creativity, innovation and enterprise.
- An appreciation of the responsibilities of engineers in cleaner production and environmental sustainability.
- An interest and ability for self-learning, and self-management.
- An appreciation of professional ethics, and the ability to work productively in a team environment, and to manage other professionals and workers in a workplace environment.

**Aims & Objectives**

The aim of the course is to prepare students for careers in chemical engineering, especially as new developments in biotechnology influence the future of chemical engineering. The course is designed to develop:

- An understanding of the fundamentals of engineering and science.
- Mastery of the technical skills required for chemical engineering and bioprocess engineering.
- An appreciation for the history of engineering, and its place in modern society, and its likely future development.
- Literacy, numeracy, and high levels of competency in various aspects of computer aided engineering.
- An ability to pursue knowledge to the current frontiers.
- An understanding of the nature of creativity, innovation and enterprise.
- An appreciation of the responsibilities of engineers in cleaner production and environmental sustainability.
- An interest and ability for self-learning, and self-management.
- An appreciation of professional ethics, and the ability to work productively in a team environment, and to manage other professionals and workers in a workplace environment.

**Entry requirements**

Satisfactory completion of an appropriate Victorian Year 12 or its equivalent.

VCE prerequisites: Units 3 & 4 - English (any) with a study score of at least 25, Physics and one of Mathematical Methods or Specialist Mathematics.

**Application procedure**

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

**Further information**

Contact the School of Biophysical Sciences and Electrical Engineering

Telephone: +61 3 9214 8591
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: http://biomedical.bsee.swin.edu.au/

**EB055 Bachelor of Engineering (Biotechnology)**

**VTAC code: 34471 (HECS), 34473 (Int. Fee)**

2801 Clearly-in ENTER: Individual offer

This course produces engineers to work in the rapidly expanding biotechnology industries, converting scientific knowledge and research into commercial products, processes and services.

**Aims & Objectives**

The aim of the course is to prepare students for careers in chemical engineering, especially as new developments in biotechnology influence the future of chemical engineering. The course is designed to develop:
The Civil Engineering degree course sets out:

- To possess the technical skills required, and to have an appreciation for the history of engineering and their discipline.
- To be literate, highly numerate and competent in all aspects of computer aided engineering with an understanding of the nature of creativity, innovation and enterprise, whilst being able to develop solution strategies and manage complex projects.

Campus

Hawthorn

Career opportunities

Civil engineers work as planners, designers, construction managers, administrators, investigation and research engineers and consultants. They work for public authorities, municipalities, consulting firms and industry, or are self-employed.

Civil engineering is also an excellent preparation for many general managerial positions in business and industry, not directly related to civil engineering.

Professional recognition

Graduate membership of The Institution of Engineers, Australia. Students who undertake the construction electives, satisfy the educational requirements of the Australian Institute of Building.

Course duration

Four years full-time (plus one year optional Industry-based Learning) or the equivalent part-time.

Structure

Most engineering degree students follow a common first year program. This gives flexible entry into the various engineering degree majors, and allows the choice of degree course to be deferred to the end of the first year.

Course subjects

Stage 1

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<tr>
<th>Semester 1</th>
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<tbody>
<tr>
<td>HES1005</td>
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Stage 2

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Stage 3

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Semester 5

- HES4621 Advanced Biochemistry
- HES3051 Process Analysis & Calculations
- HES3110 Control Engineering
- HES3021 Heat Transfer

Semester 6

- HES3045 Separation Processes
- HES3880 Bioprocess Engineering Principles
- HES3030 Reaction Engineering
- HES3025 Mass Transfer

Semester 7

- HES4000 Industry-based Learning

Semester 8

- HES4005 Industry-based Learning

Semester 9

- HES5082 Process & Equipment Design
- HES5085 Environmental Engineering
- HES3380 Engineering Management 2
- XXXXX Elective

Semester 10

- HES5085 Process Plant Design
- HES4626 Biotechnology
- HES3385 Engineering Management 3
- HES5106 Research Project

Entry requirements

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 and 4 - a study score of at least 25 in English (any), in one of Biology or Chemistry and in one of Mathematical Methods or Specialist Mathematics.

Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Applicants who wish to study part-time should contact the School of Engineering and Science to obtain an application form.

Further information

Contact the School of Engineering & Science

Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

C050 Bachelor of Engineering (Civil)

VTAC code: 34681 (HECS), 34693 (Int. Fee)
2001 Clearly-in ENTER: 80.35

Civil engineering deals with the design, construction and improvement of the built environment. Civil engineers provide the technical expertise and management skills to plan, design, construct, and maintain such facilities as buildings, bridges, dams, water supply systems, waste treatment systems, road and rail networks, air and sea ports.

Civil engineering offers a creative and rewarding career for men and women in many different areas which are essential to modern civilisation. Currently career prospects for civil engineers are good, both in Australia and overseas. Because civil engineers are responsible for many of Australia’s essential services, they will continue to be needed in considerable numbers for the foreseeable future.

Aims & Objectives

The Civil Engineering degree course sets out:

- To educate and develop students to understand the fundamentals of engineering and science.
Stage 4
Semester 1
HES4100 Industry-based Learning 2
Semester 2
HES4155 Urban Infrastructure
HES4115 Civil Engineering Applications
HES4125 Structural Engineering Applications
HES4135 Transport Engineering, OR
HES4145 Structural Engineering 1
Stage 5
Semester 1
HES5300 Engineering Management 2
HES5110 Design & Construction 1
HES5170 Building Infrastructure
HES5130 Water Engineering, OR
HES5140 Structural Engineering 2
Semester 2
HES5106 Research Project
HES5125 Design & Construction 2
HES5175 Cost Engineering
HES5135 Local Planning & Engineering Systems, OR
HES5220 Solid Mechanics

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - English, Mathematical Methods, and one of Physics, Chemistry, Biology, Specialist Mathematics, Psychology or Information Technology: Information Systems.

Applicants who have successfully completed an Advanced Certificate or Associate Diploma at a Victorian Institute of TAFE, or reached an approved equivalent standard will also be eligible for consideration for admission. However, this does not guarantee a place.

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and normally have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Engineering and Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

E051 Bachelor of Engineering (Electronics and Computer Systems)
VTAC code: 34591 (HECS), 34593 (Int. Fee)
2001 Clearly-in ENTER: 80.95

Electronics and Computer Systems engineering is a profession characterised by the growth of new technologies and new opportunities. This course provides professional career opportunities in a range of dynamic high-technology areas including the overlapping fields of computer hardware and software, telecommunications, electronics and electrical systems.

Aims & Objectives
This degree course has the following objectives:
- To develop in students a mastery of a wide spectrum of basic engineering principles underlying electronics and computer systems engineering.
- To develop in students a thorough understanding of a broad range of engineering methods and techniques, and competence in their application, so that students are able to comprehend and analyse problems and obtain satisfactory design solutions which, where appropriate, show originality and resourcefulness.
- To develop students’ communication skills so that they can present their ideas clearly by verbal, written and graphical means.
- To give students an appropriate introduction to the role of the professional engineer in the community and to explore the social effects of engineering decisions.
- To prepare students for the changing workplace and changing societal context of engineering by developing their life-long learning skills and flexibility of mind.

Campus
Hawthorn

Career opportunities
Career opportunities include microprocessor applications, telecommunications, analog and digital electronics design, systems modelling and control, and chip design.

Professional recognition
Graduates are expected to be eligible to apply for graduate membership of The Institution of Engineers, Australia.

Course duration
Four years full-time. An optional and additional year of Industry-based Learning (IBL) may also be available.

Structure
This course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed to be equivalent to one hour of student work per week over a semester, whether in contact with staff or in private study. Four subjects, each worth 12.5 credit points, will generally be taken each semester. The typical student’s average weekly workload during semester is therefore expected to be fifty hours. Total student contact hours, including lectures, classes, tutorials, flexible learning and laboratory and field sessions will vary in different semesters.

Course subjects
Semester 1
HMS111 Engineering Mathematics 1
HET124 Energy & Motion
HET1000 Professional Engineering
HES1220 Materials & Processes
Semester 2
HMS112 Engineering Mathematics 2
HES1125 Mechanics of Structures
HET182 Electronic Systems
HET1005 Engineering Project
Semester 3
HMS213 Engineering Mathematics 3B
HET210 Electronics
HET212 Circuits
HIT2080 Introduction to Programming
Semester 4
HMS214 Engineering Mathematics 4B
HIT3081 Software Development for Engineers
HET225 Electrical Machines
HET232 Embedded Microcontrollers
Semester 5
HET310 Analog Electronics Design
HET312 Control & Automation
HET314 Communications Principles
Swinburne University of Technology

Develop an appreciation of the management of engineering activities.

Provide a thorough grounding in the engineering, physical and mathematical sciences.

Develop skills in the design, development and testing of mechanical products and systems.

Mechanical engineering deals with the design, manufacture and maintenance of machine components and systems from small domestic products to highly complex vehicles and aerospace systems. Mechanical engineers need to respond to a changing world dominated by advances in technology.

To harness these changes, the mechanical engineer's contributions can include design, development, testing, innovation, project management, planning, research, quality control, and professional management.

The mechanical engineer’s contributions can include design, development, testing, innovation, project management, planning, research, quality control, and professional management.

Aims & Objectives

- Enhance the learning experience through industry based learning.
- Develop the ability to undertake life-long professional learning.
- Develop an awareness of the professional responsibility for a sustainable environment.

Campus

Hawthorn

Career opportunities

Employment may be found in many areas of industry and commerce including: automotive, vehicle, transport, power, manufacturing, materials processing, appliance production, mechanical building services, mining and raw material conversion.

Appendix A: Entry requirements

Entry requirements

Satisfactory completion of an appropriate Victorian Year 12 or its equivalent.

VCE prerequisites: Units 3 & 4 - English (any) with a study score of at least 25, Mathematical Methods, and one of Physics, Chemistry, Biology, Psychology, Information Technology (Information Systems) or Specialist Mathematics.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information

Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: www.swin.edu.au/bioscieleceng

M050 Bachelor of Engineering (Mechanical)

VTAC code: 34611 (HECS), 34613 (Int. Fees)
2001 Clearly-in ENTER: 80.95

Mechanical engineering deals with the design, manufacture and maintenance of machine components and systems from small domestic products to highly complex vehicle and aerospace systems. Mechanical engineers need to respond to a changing world dominated by advances in technology. Their combination of broad engineering knowledge and detailed expertise in specialist fields enables them to harness these changes.

Aims & Objectives

The Mechanical Engineering course aims to:

- Develop skills in the design, development and testing of mechanical products and systems.
- Provide a thorough grounding in the engineering, physical and mathematical sciences.
- Develop an appreciation of the management of engineering activities.

Stage 1

Semester 1

- HES1300 Robotics & Mechatronics Project 1
- HES1230 Materials & Processes
- HET124 Energy and Motion
- HMS111 Engineering Maths 1

Semester 2

- HES125 Mechanics of Structures
- HES1305 Robotics & Mechatronics Project 2
- HET182 Electronic Systems
- HMS112 Engineering Maths 2

Stage 2

Semester 1

- HMS211 Engineering Mathematics 3A
- HES2300 Thermodynamics 1
- HES2120 Structural Mechanics
- HES2148 Computer Aided Engineering

Semester 2

- HES2230 Engineering Materials
- HES2340 Fluid Mechanics 1
- HES2310 Machine Dynamics 1
- HES2280 Manufacturing Technology 1

Stage 3

Semester 1

- HES3350 Machine Design
- HES3310 Control Engineering

Further information

Satisfactory completion of an appropriate Victorian Year 12 or its equivalent.

VCE prerequisites: Units 3 & 4 - English (any) with a study score of at least 25, Mathematical Methods, and one of Physics, Chemistry, Biology, Psychology, Information Technology (Information Systems) or Specialist Mathematics.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information

Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: www.swin.edu.au/bioscieleceng

M050 Bachelor of Engineering (Mechanical)

VTAC code: 34611 (HECS), 34613 (Int. Fees)
2001 Clearly-in ENTER: 80.95

Mechanical engineering deals with the design, manufacture and maintenance of machine components and systems from small domestic products to highly complex vehicle and aerospace systems. Mechanical engineers need to respond to a changing world dominated by advances in technology. Their combination of broad engineering knowledge and detailed expertise in specialist fields enables them to harness these changes.

Aims & Objectives

The Mechanical Engineering course aims to:

- Develop skills in the design, development and testing of mechanical products and systems.
- Provide a thorough grounding in the engineering, physical and mathematical sciences.
- Develop an appreciation of the management of engineering activities.

Stage 1

Semester 1

- HES1300 Robotics & Mechatronics Project 1
- HES1230 Materials & Processes
- HET124 Energy and Motion
- HMS111 Engineering Maths 1

Semester 2

- HES125 Mechanics of Structures
- HES1305 Robotics & Mechatronics Project 2
- HET182 Electronic Systems
- HMS112 Engineering Maths 2

Stage 2

Semester 1

- HMS211 Engineering Mathematics 3A
- HES2300 Thermodynamics 1
- HES2120 Structural Mechanics
- HES2148 Computer Aided Engineering

Semester 2

- HES2230 Engineering Materials
- HES2340 Fluid Mechanics 1
- HES2310 Machine Dynamics 1
- HES2280 Manufacturing Technology 1

Stage 3

Semester 1

- HES3350 Machine Design
- HES3310 Control Engineering

Further information

Satisfactory completion of an appropriate Victorian Year 12 or its equivalent.

VCE prerequisites: Units 3 & 4 - English (any) with a study score of at least 25, Mathematical Methods, and one of Physics, Chemistry, Biology, Psychology, Information Technology (Information Systems) or Specialist Mathematics.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information

Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: www.swin.edu.au/bioscieleceng

M050 Bachelor of Engineering (Mechanical)

VTAC code: 34611 (HECS), 34613 (Int. Fees)
2001 Clearly-in ENTER: 80.95

Mechanical engineering deals with the design, manufacture and maintenance of machine components and systems from small domestic products to highly complex vehicle and aerospace systems. Mechanical engineers need to respond to a changing world dominated by advances in technology. Their combination of broad engineering knowledge and detailed expertise in specialist fields enables them to harness these changes.

Aims & Objectives

The Mechanical Engineering course aims to:

- Develop skills in the design, development and testing of mechanical products and systems.
- Provide a thorough grounding in the engineering, physical and mathematical sciences.
- Develop an appreciation of the management of engineering activities.

Stage 1

Semester 1

- HES1300 Robotics & Mechatronics Project 1
- HES1230 Materials & Processes
- HET124 Energy and Motion
- HMS111 Engineering Maths 1

Semester 2

- HES125 Mechanics of Structures
- HES1305 Robotics & Mechatronics Project 2
- HET182 Electronic Systems
- HMS112 Engineering Maths 2

Stage 2

Semester 1

- HMS211 Engineering Mathematics 3A
- HES2300 Thermodynamics 1
- HES2120 Structural Mechanics
- HES2148 Computer Aided Engineering

Semester 2

- HES2230 Engineering Materials
- HES2340 Fluid Mechanics 1
- HES2310 Machine Dynamics 1
- HES2280 Manufacturing Technology 1

Stage 3

Semester 1

- HES3350 Machine Design
- HES3310 Control Engineering
Aims & Objectives
The main aim of the course is to educate a new generation of creative product design engineers with the knowledge, skills and attitudes that make them valuable members of any team working with product design, development and production. This aim is to be achieved by providing a project driven core course which covers the required disciplines involved in creative design, in parallel to studies in engineering science, materials and manufacturing processes and management of innovation.

The course objectives are to:
- Produce graduates with a sound knowledge of the principles and processes of product design.
- Develop the ability to design products with a sound engineering base.
- Develop student knowledge and understanding of traditional and innovative processes in designing and developing successful products for competitive markets.
- Educate students in making suitable material selection based on human/machine/manufacturing requirements.
- Produce graduates with sound management and professional skills that will be able to incorporate social, environmental, legal and ethical issues in their product design.

Campus
Hawthorn and Prahran.

Career opportunities
Graduates will find employment in industries dealing in the design, development and manufacture of domestic products or the automobile industry. Their role will be primarily in the area of design, innovation, project management and manufacturing.

Professional recognition
Graduates are eligible to apply for membership of The Institution of Engineers, Australia and The Design Institute of Australia.

Course duration
Four years full-time plus one year of optional Industry-based Learning (IBL).

Structure
Each year of study has two semesters. Normally, four subjects are studied in each semester of 12.5 credit points, however, some of the Product Design subjects may be of 25 credit points. The total number per semester is 50 credit points. Eight semesters of academic study plus one year of Industry-based Learning is required to complete this course.

Course subjects

### Stage 1

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### Stage 2

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<td>HES2280</td>
<td>Manufacturing Technology 1</td>
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### R050 Bachelor of Engineering (Robotics and Mechatronics)

**VTAC code: 34681 (HECS), 34683 (Int. Fee)**

2001 Clearly-in ENTER: 86.20

This course brings together the complementary disciplines of Robotics and Mechatronics which are founded in the engineering sciences, mathematics and mechanical/electronic engineering. It also addresses management issues including technology management, accounting and law. The course includes the study of bioins and micromachines which have a significant influence on the design of mechatronic systems for an increasing range of applications.

Robots are computer controlled devices which have been used to assist humans in various tasks. While the majority of robots have been used in manufacturing, a recent trend has seen robots used in a variety of applications including space and underwater exploration, medicine and a wide range of service industries. The discipline of robotics embraces the design and operation of these devices and their integration with other systems in the work environment. Mechatronics combines mechanical, electrical, electronic and software engineering in the design, development and control of diverse systems used in a range of industries including manufacturing, medicine and the service industries.

#### Aims & Objectives

The course aims to develop innovative skills in robotic and mechatronic systems, computing, electronics, mechanical and electrical engineering, in national and international contexts.

#### Campus

Hawthorn

#### Career opportunities

Graduates can take up careers in a wide spectrum of industries including robotics, airlines, chemical industries, automotive, appliance manufacturing and industrial research. Contributions can be made to these industries in a variety of roles including design engineer, project planner, product designer and project manager.

#### Professional recognition

Graduate membership of The Institution of Engineers, Australia.

#### Course duration

Four years full-time (plus one year optional Industry-based Learning) or the equivalent part-time.

#### Course subjects

**Stage 1**

**Semester 1**

- HES1300 Robotics and Mechatronics Project 1
- HET124 Energy and Motion
- HES1230 Materials & Processes
- HMS111 Engineering Mathematics 1

**Semester 2**

- HES1305 Robotics and Mechatronics Project 2
- HES1125 Mechanics of Structures
- HET182 Electronic Systems
- HMS112 Engineering Maths 2

**Stage 2**

**Semester 1**

- HMS211 Engineering Maths 3A
- HES2120 Structural Mechanics
- HET210 Electronics
- HIT1051 Software Development 1

**Semester 2**

- HES2310 Machine Dynamics 1
- HET225 Electrical Machines
- HIT1052 Software Development 2
- HET232 Embedded Microcontrollers
Aims & Objectives

This course aims to:

- To develop in students a broad mastery of the basic science and engineering principles underlying telecommunications and Internet technologies and an ability to apply that knowledge.
- To develop in students a thorough understanding of appropriate engineering methods and techniques, and competence in their application, so that students are able to comprehend and analyse problems and obtain satisfactory design solutions which, where appropriate, show originality and resourcefulness.
- To develop students' communication skills so that they can present their ideas clearly by verbal, written and graphic means both within the engineering community and the community at large.
- To give students an appropriate introduction to the role of the professional engineer in the community and to explore the social effects of engineering decisions.
- To develop the moral, social, aesthetic, environmental and ethical concepts essential to a satisfying personal philosophy and a sound professional attitude.
- To develop abilities to function effectively as an individual and in project teams, whether as manager, leader or team member.
- To prepare students for the changing workplace and the changing societal context of engineering by developing their life-long learning skills and flexibility of mind.

Entry requirements

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any) and a study score of 20 in Mathematical Methods and in one of Biology, Chemistry, Information Technology: Information Systems, Physics, Psychology or Specialist Mathematics.

Applicants who have successfully completed an Advanced Certificate or Associate Diploma at a Victorian Institute of TAFE, or reached an approved equivalent standard will also be eligible for consideration for admission. However, this does not guarantee a place.

Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information

Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

Engineering and Technology

Stage 3

Semester 1

HES350 Machine Design
HET312 Control and Automation
HES380 Human Factors
HET343 Mechatronics

Semester 2

HES330 Industry-based Learning

Stage 4

Semester 1

HES4300 Industry-based Learning

Semester 2

HES3380 Engineering Management 1
HET489 Robotic Control
HET292 Digital Signal & Image Processing
HIT1031 Introduction to Software Engineering

Stage 5

Semester 1

HET551 Design and Development Project 1
HES529 Advanced Technologies
HES5380 Engineering Management 2

Semester 2

HET557 Design and Development Project 2
HES5250 Robot System Design
HES5385 Engineering Management 3

Entry requirements

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any) and a study score of 20 in Mathematical Methods and in one of Biology, Chemistry, Information Technology: Information Systems, Physics, Psychology or Specialist Mathematics.

Applicants who have successfully completed an Advanced Certificate or Associate Diploma at a Victorian Institute of TAFE, or reached an approved equivalent standard will also be eligible for consideration for admission. However, this does not guarantee a place.

Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information

Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

E059 Bachelor of Engineering

Semester 1

HET121 Introduction to Telecommunications
HET313 Telecommunication Technologies
HIT1051 Software Development 1
HMS111 Engineering Mathematics 1

Semester 2

HET224 Computer Communications & LANs
HIT102 Electronic Systems
HIT1052 Software Development 2
HMS112 Engineering Mathematics 2

Semester 3

HET432 Internetworking
HIT3072 C++ for Programmers

Swinburne University of Technology | Higher Education Handbook 2002
HET210 Electronics
HMS213 Engineering Mathematics 3B

**Semester 4**
HET123 Internet & WWW2
HET410 Network Administration
HIT1031 Introduction to Software Engineering
HMS214 Engineering Mathematics 4B

**Semester 5**
HET314 Communications Principles
HET336 Network Engineering
HET316 Electromagnetic Waves
HET424 IP Technologies

**Semester 6**
HET315 Communications Information Theory
HET232 Embedded Microcontrollers
HAM315 Information Society: A Global Perspective
HET299 Digital Signal & Image Processing

**Semester 7**
HET550 Design & Development Project 1
HET436 Broadband Multimedia Networks
HET417 Photonics & Fibre Optics
HESS380 Engineering Management 2

**Semester 8**
HET556 Design & Development Project 2
HET452 Wireless Communication
HET431 Digital Electronic Design
HESS385 Engineering Management 3

**Entry requirements**
Satisfactory completion of an appropriate Victorian Year 12 or its equivalent.
VCE prerequisites: Units 3 & 4 - English (any) with a study score of at least 25 and Mathematical Methods.
Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

**Application procedure**
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

**Further information**
Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8859
Fax: +61 3 9819 0956
Email: bsee@swin.edu.au
Website: www.swin.edu.au/bioscieleceng

**S050 Bachelor of Science (Photonics)**
VTAC code: 34011 (HECS), 34013 (Int. Fee)

**New course for 2002**
Photonics involves the control, transfer and storage of information using light, and it will play a major role in current and future generations of telecommunications and information systems. The course provides an in-depth understanding of photonics (light, lasers, optics, optoelectronics etc.) and its application in the telecommunications industry.

**Campus**
Hawthorn

**Career opportunities**
Professional careers in the expanding field of photonics, fibre optics and lasers, especially for research and development in the telecommunications or medical industries.

**Course duration**
Three years full-time or part-time equivalent. An optional and additional year of Industry-based Learning (IBL) may also be available.

**Structure**
The course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed equivalent to one hour of student work per week for one semester whether in contact with staff or in private study. Four subjects will be taken per semester, each subject having a value of 12.5 credit points. The typical student's average weekly workload during semester is therefore expected to be 50 hours.

**Course subjects**

**Stage 1**
**Semester 1**
HMS111 Engineering Mathematics 1
HET124 Energy & Motion
HIT1051 Software Development 1

**Semester 2**
HMS112 Engineering Mathematics 2
HET182 Electronic Systems
HET103 Photonics 1
HIT1052 Software Development 2

**Stage 2**
**Semester 1**
HMS213 Engineering Mathematics 3B
HET210 Electronics
HET128 Physics
HET417 Photonics & Fibre Optics

**Semester 2**
HMS214 Engineering Mathematics 4B
HET224 Computer Communications & LAN's
HET203 Photonics 2
HET205 Introduction to Modern Optics

**Optional IBL Year**

**Semester 1**
Industry-based Learning

**Semester 2**
Industry-based Learning

**Stage 3**
**Semester 1**
HET314 Communications Principles
HET432 Internetworking
HET206 Modern Physics
HET204 Photonics 3

**Semester 2**
HET299 Digital Signal & Image Processing
HET315 Communications Information Theory
HET208 Fibre Optics Communications & Optical Instrumentation
HET207 Modelling & Simulation Projects

**Entry requirements**
Successful completion of an appropriate Victorian Year 12 or its equivalent.
2002 VCE Prerequisites: Units 3 and 4 - English (any) with a study score of at least 25, Mathematical Methods. Bonus points given for Physics, Specialist Mathematics or Information Systems.
### Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

### Further information
Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8959
Fax: +61 3 9819 0896
Email: bsee@swin.edu.au
Website: www.swin.edu.au/photronics

### M056 Bachelor of Technology (Air Transportation Management)
VTAC code: 34421 (F/T), 34423 (Int. Fee)
2001 Clearly-in ENTER: Individual offer

This Air Transportation Management course provides the necessary preparation for non-flying professional careers in the air transportation industry.

### Aims & Objectives
The aim of this course is to provide an alternative non-flying degree to the Bachelor of Technology (Aviation) course and to prepare students for professional careers in the air transportation industry.

### Campus
Hawthorn

### Career opportunities
The Air Transportation Management course prepares students for professional careers in the following areas:
- Airline management
- Airline flight operations
- Airline ground operations
- Airport management
- Airport operations
- Airport planning
- Aviation consultancy firms
- Aviation charter firms
- Air services
- Aviation regulatory and safety services
- Aviation safety authorities

### Course duration
Three years full-time plus six months to one year optional Industry-based Learning (IBL).

### Course subjects

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<td>HES1910</td>
<td>Human Factors &amp; Communication</td>
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<td>Aviation Project</td>
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<tr>
<td>HES4980</td>
<td>Aviation Facilities Management &amp; Contemporary Issues</td>
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### Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any) and a study score of 20 in Mathematical Methods and in one of Biology, Chemistry, Physics, Specialist Mathematics, Information Technology, Information Systems, Psychology.

### Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

### Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8284
Email: engsci@swin.edu.au
Website: www.swin.edu.au/aviation/

### M055 Bachelor of Technology (Aviation)
VTAC code: 34511 (HECS), 34513 (Int. Fee)
2001 Clearly-in ENTER: 86.65

This three year full-time degree prepares students for careers in the air transportation industry as professional pilots. The course incorporates the theory subjects required by the Australian Civil Aviation Safety Authority (CASA) up to Air Transport Pilot Licence (ATPL) standard. Students who successfully complete this course are awarded the degree of Bachelor of Technology (Aviation) and will also gain a Commercial Pilot Licence (CPL).

### Aims & Objectives
The aim of the course is to prepare students for careers in the aviation industry as professional pilots. Skill training and education processes are weighted equally in the course where there is a need to provide a high level of both flying prowess and the ability to solve problems through the application of methodical and rational thinking. High quality Commercial Pilot Licence training is augmented with educational topics designed to provide an optimum balance between the range of areas required by today’s professional pilots. Aviation Human Factors training, Aviation Management and additional aircraft specific engineering topics are included to attain this objective.
Swinburne University of Technology | Higher Education Division (Hawthorn/Prahran)

Campus
Hawthorn

Career opportunities
This course prepares students for aviation careers in the air transportation industry as professional pilots.

Professional recognition
The BTech(Aviation) and BTech(Aviation)/BBus courses are designed to take students beyond the requirements for the Civil Aviation Safety Authority (CASA), Air Transport Pilot Licence (ATPL) theory examination and Commercial Pilot Licence (CPL(A)) practical test.

Course duration
Three years full-time.

Course subjects

Year 1
Semester 1
HES1900 General Flying Progress Theory
HET124 Energy & Motion
HMS141 Aviation Mathematics
HES1910 Human Factors & Communication

Semester 2
HES1905 Commercial Pilot Licence 1
HES1935 Internal Combustion & Gas Turbine Engines
HES1945 Aircraft Electrics & Avionics
HES1915 Occupational Health & Safety

Year 2
Semester 1
HES2900 Commercial Pilot Licence 2
HES2940 Aircraft Aerodynamics & Performance
HES2905 Aircraft Structures
HES2910 Human Factors & Performance

Semester 2
HES2905 Air Transport Pilot Licence 1
HES2945 Aircraft Design & Operations
HES2906 Aircraft Maintenance
HES2985 Aviation Business Management

Year 3
Semester 1
HES4900 Air Transport Pilot Licence 2
HES4980 Aviation Law
HES4980 Aviation Project
HES4980 Aviation Facilities Management & Contemporary Issues

Semester 2
HES4905 Air Transport Pilot Licence 3
HES4985 Airspace Management & Air Traffic Services
HES4915 Crew Resource Management & Instructional Techniques

Elective

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any), and a study score of 20 in Mathematical Methods and in one of Biology, Chemistry, Physics, Specialist Mathematics, Information Technology: Information Systems, Psychology.

Applications should ensure they are able to pass the medical requirements of the Civil Aviation Safety Authority (CASA) Class 1 Medical.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8284
Email: engsci@swin.edu.au
Website: www.swin.edu.au/aviation/

DOUBLE DEGREES

EBBO50 Bachelor of Engineering (Biotechnology) / Bachelor of Science (Biotechnology)
VTAC code: 34471 (HECS), 34473 (Int. Fee)
2001 Clearly-in ENTER: Individual offer

This double degree course provides studies in biotechnological and chemical engineering, plus more in-depth studies of the scientific principles of biotechnology. Students will learn how to generate knowledge and understanding of biotechnology and to apply these to the creation of commercial products, processes and services.

Aims & Objectives
The course aims to develop:

• An in-depth understanding of the fundamentals of chemical engineering and the sciences that underpin biotechnology. A mastery of the technical skills required for chemical engineering and bioprocess engineering.
• An appreciation for the history of engineering, its place in modern society, its likely future development, and various aspects of computer aided engineering.
• An appreciation of the responsibilities of engineers in cleaner production and environmental sustainability.

Campus
Hawthorn

Career opportunities
Graduates will undertake careers in chemical engineering especially as new developments in biotechnology influence the future of chemical engineering.

Professional recognition
Graduate membership of The Institution of Engineers, Australia. The Bachelor of Science course is expected to meet the accreditation requirements of the Royal Australian Chemical Institute, especially if chemistry subjects are selected in the elective streams.

Course duration
Five years full-time plus an optional and additional year of Industry-based Learning (IBL).

Structure
The program involves four equally-weighted subjects per semester over five years, plus one optional year of full-time, paid, Industry-based Learning (normally undertaken after the fifth semester). Practical laboratory work is undertaken throughout the course. A research project is undertaken in final year.

The normal study mode is full-time with the courses being completed in the periods indicated. However, subject to student demand and the availability of staff, the academic component of the course may be accelerated in calendar time by undertaking Summer Semester studies.
### Course subjects

#### Stage 1

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<tr>
<th>Semester 1</th>
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<tbody>
<tr>
<td>HES1000 Professional Engineering</td>
<td>HES1816 Concepts of Biotechnology</td>
<td>HES1525 Chemistry 2</td>
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<tr>
<td>HES1500 Chemistry 1</td>
<td>HET124 Energy and Motion</td>
<td>HET192 Electronic Systems</td>
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<tr>
<td>HES111 Engineering Maths 1</td>
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<td>HMS111 Engineering Maths 2</td>
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#### Stage 2

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<th>Semester 1</th>
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<tr>
<td>HES2621 Introduction to Biochemistry</td>
<td>HES2626 Biochemistry of Genes and Proteins</td>
<td>HES2631 The Microbial World</td>
<td>HES2636 Microbes in the Environment</td>
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<td>HES2631 The Microbial World</td>
<td>HES2510 Investigative Chemistry</td>
<td>HES2340 Fluids Mechanics 1</td>
<td>HES2330 Engineering Materials</td>
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<td>HES2111 Engineering Maths 3</td>
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#### Stage 3

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<tr>
<td>HES4621 Advanced Biochemistry</td>
<td>HES3045 Separation Processes</td>
<td>HES3025 Mass Transfer</td>
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<tr>
<td>HES4641 Practical Biochemistry</td>
<td>HES3020 Chemistry 3</td>
<td>HES3030 Reaction Engineering</td>
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<tr>
<td>HES3051 Process Analysis &amp; Calculations</td>
<td>HES2330 Thermodynamics 1</td>
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#### Stage 4

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<td>HES4000 Industry-based Learning</td>
<td>HES3046 Bioprocess Engineering Principles</td>
<td>HES4005 Industry-based Learning</td>
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#### Stage 5

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<tr>
<td>HES3310 Control Engineering</td>
<td>HES3021 Heat Transfer</td>
<td>HES3380 Engineering Management 1</td>
<td>HES4520 Advanced Chemistry 1</td>
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<td>HES3820 Engineering Management 2</td>
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#### Stage 6

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<td>HES5065 Process Plant Design</td>
<td>HES5385 Engineering Management 3</td>
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<tr>
<td>HES5106 Research Project</td>
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#### Entry requirements

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 and 4 - a study score of at least 25 in English (any), in one of Biology or Chemistry and in one of Mathematical Methods or Specialist Mathematics.

#### Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

#### Further information

Contact the School of Engineering & Science

Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

#### EBB055 Bachelor of Engineering (Biotechnology) / Bachelor of Business

VTAC code: 34471 (HECS), 34473 (Int. Fee)

2001 Clearly-in ENTER: Individual offer

This double degree course combines studies in biotechnology and chemical engineering with a sequence of business studies, to equip graduates with the skills to create and manage commercial enterprises in the high-tech arena. It develops the full range of skills associated with chemical and biotechnological engineering as well as developing an understanding of the local and global business environment, general business knowledge and skills, especially in the area of management.

#### Aims & Objectives

The aim of the course is to prepare students for careers in chemical engineering, especially as new developments in biotechnology influence the future of chemical engineering. The course is designed to develop:

- An understanding of the fundamentals of engineering and science.
- Mastery of the technical skills required for chemical engineering and bioprocess engineering.
- An appreciation for the history of engineering, and its place in modern society, and its likely future development.
- Literacy, numeracy, and high levels of competency in various aspects of computer aided engineering.
- An ability to pursue knowledge to the current frontiers.
- An understanding of the nature of creativity, innovation and enterprise.
- An appreciation of the responsibilities of engineers in cleaner production and environmental sustainability.
- An interest and ability for self-learning, and self-management.
- An appreciation of professional ethics, and the ability to work productively in a team environment, and to manage other professionals and workers in a workplace environment.

In addition, this course aims to develop:

- An understanding of the local and global business environment.
- General business knowledge and skills, especially in the area of management.
- An advanced understanding of the roles of research and development in the development of business enterprises.
- An understanding of entrepreneurship and the management of entrepreneurship in business.
• An understanding of the processes of innovation, and excellent skills for professional communication, especially within the business environment.

**Campus**
Hawthorn

**Career opportunities**
Graduates will have the ability to create and manage commercial enterprises in the rapidly developing arena of biotechnology and chemical/biochemical engineering.

**Professional recognition**
Graduate membership of The Institution of Engineers, Australia.

**Course duration**
Five years full-time plus an optional and additional year of Industry-based Learning (IBL).

**Structure**
The program involves four equally-weighted subjects per semester over five years, plus one optional year of full-time, paid, Industry-based Learning (normally undertaken after the fifth semester). Practical laboratory work is undertaken throughout the course. A research project is undertaken in final year.
The selection of subjects in the Business sequence will be specified by the School of Business. The minimum number of Business subjects will be 14, and the maximum number will be 16.
The normal study mode is full-time with the courses being completed in the periods indicated. However, subject to student demand and the availability of staff, the academic component of the course may be accelerated in calendar time by undertaking Summer Semester studies.

**Course subjects**

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<th>Stage 1</th>
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**Entry requirements**
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.
VCE prerequisites: Units 3 and 4 - a study score of at least 25 in English (any), in one of Biology or Chemistry, and in one of Mathematical Methods or Specialist Mathematics.

**Application procedure**
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

**Further information**
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

**ECA050 Bachelor of Engineering (Civil) / Bachelor of Arts**

VTAC code: 34691 (HECS), 34693 (Int. Fee)
2001 Clearly-in ENTER: 80.35

This course offers students a double degree course in engineering and arts subjects, and is designed to increase student knowledge, skills and understanding of engineering principles in a specific discipline and fundamental knowledge of arts studies.
The course includes an optional, additional Industry-based Learning (IBL) segment, in which students are placed in paid, supervised employment as part of their degree program. IBL gives students practical experience to add to their academic studies and is a proven advantage in the graduate job market.
All IBL placements are subject to availability and require suitable English language skills.

**Campus**
Hawthorn

**Career opportunities**
Graduates of this double degree program may select paths from either Engineering or Arts or both discipline areas. Graduates will have an advantage in the market place compared to those with single discipline degrees.

**Professional recognition**
Graduates are eligible for membership of The Institution of Engineers, Australia.

**Course duration**
Five years full-time, plus one year optional Industry-based Learning and/or study abroad.

**Structure**
Stage 1: Students follow the common first year for all engineering courses.
Stage 2: Students elect the civil engineering stream.
Stage 3: Students continue with civil engineering stream and commence the study of arts subjects.

Arts component: Students study a total of fourteen subjects taken from the arts or business area and these must include:
- One full arts major.
- HBB110 Organisations and Management.
- Two additional approved management subjects.

Stage 4 & 5: Continuation of specialist engineering and arts subjects.
For details on arts majors, refer to the ‘Arts Majors/Minors’ section in this handbook.

**Course subjects**

**Year 1**

**Semester 1**
- HET124 Energy & Motion
- HES1230 Materials & Processes
- HMS111 Engineering Maths 1

**Semester 2**
- HEF1000 Professional Engineering
- HET124 Energy & Motion
- HES1230 Materials & Processes
- HMS111 Engineering Maths 1

**Year 2**

**Semester 1**
- HES2130 Engineering Surveying
- HES2100 Civil Engineering Practice
- HES2120 Structural Mechanics 1
- HMS215 Engineering Maths 3C

**Semester 2**
- HES2155 Engineering Project
- HES1125 Mechanics of Structures
- HET192 Electronic Systems
- HMS112 Engineering Maths 2

**Year 3**

**Semester 1**
- HES3110 Civil Design & Materials
- HES3120 Structural Design
- Xxxxxxxxxx Arts subject

**Semester 2**
- HES4125 Structural Engineering Applications
- HES4115 Civil Engineering Applications
- HES4135 Transport Engineering, OR
- HES4145 Structural Engineering
- Xxxxxxxxxx Arts subject

**Year 4**

**Semester 1**
- HES5110 Design & Construction 1
- HES5130 Water Engineering, OR
- HES5140 Structural Engineering 2
- Xxxxxxxxxx Arts subject
- Xxxxxxxxxx Arts subject

**Semester 2**
- HES5125 Design & Construction 2
- HES5135 Local Planning and Eng Systems, OR
- HES5220 Solid Mechanics
- Xxxxxxxxxx Arts subject
- Xxxxxxxxxx Arts subject

**Year 5**

**Semester 1**
- Xxxxxxxxxx Arts subject
- Xxxxxxxxxx Arts subject
- Xxxxxxxxxx Arts subject
- Xxxxxxxxxx Arts subject

**Semester 2**
- Xxxxxxxxxx Arts subject
- Xxxxxxxxxx Arts subject
- Xxxxxxxxxx Arts subject
- Xxxxxxxxxx Arts subject

**Entry requirements**
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any), Mathematical Methods, and one of Physics, Chemistry, Biology, Specialist Mathematics, Psychology or Information Technology: Information Systems.

**Application procedure**
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Applications for part-time places should be made directly to the School of Engineering and Science on the appropriate form.

**Further information**
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

**ECB050 Bachelor of Engineering (Civil) / Bachelor of Business**
VTAC code: 34691 (HECS), 34693 (Int. Fee)
2001 Clearly-in ENTER: 80.35

This course offers students a double degree in engineering and business subjects, and is designed to increase student knowledge, skills and understanding of civil engineering principles and a fundamental knowledge of business studies.

The course includes an optional, additional Industry-based Learning (IBL) segment, in which students are placed in paid, supervised employment as part of their degree program. IBL gives students practical experience to add to their academic studies and is a proven advantage in the graduate job market.
All IBL placements are subject to availability and require suitable English language skills.

**Campus**
Hawthorn

**Career opportunities**
Refer to entries under Bachelor of Engineering (Civil) and Bachelor of Business.

**Professional recognition**
Graduates are eligible for membership of: The Institution of Engineers, Australia; Australian Computer Society (ACS); Australian Society of Certified Practising Accountants (ASPA); Institute of Chartered Accountants in Australia (ICA).
Students must have completed an appropriate selection of subjects to qualify for membership.

**Course duration**
Five years full-time, plus one year optional Industry-based Learning may be available.

**Structure**
Stage 1: Students follow the common first year for all engineering courses.
Stage 2: Students elect the civil engineering stream.
Stage 3: Students continue with the civil engineering stream and commence the study of business core subjects.

Business Core:
- HBC110 Accounting 1
- HBE110 Microeconomics
- HBH110 Organisations and Management
- HBM110 The Marketing Concept

Stage 4 & 5: Continuation of civil engineering and business subjects.
For details of Business majors, refer to the Business specialisation section in this handbook.

**Course subjects**

**Year 1**

**Semester 1**
- HEF1000 Professional Engineering
- HET124 Energy & Motion
- HES1230 Materials & Processes
- HMS111 Engineering Maths 1

**Semester 2**
- HEF1005 Engineering Project
- HES1125 Mechanics of Structures
- HET182 Electronic Systems
- HMS112 Engineering Maths 2

**Year 2**

**Semester 1**
- HES2130 Engineering Surveying
- HES2100 Civil Engineering Practice
- HES2129 Structural Mechanics 1
- HMS215 Engineering Maths 3C

**Semester 2**
- HES2155 Geomechanics
- HES2115 Road Data, Design & Env
- HES2340 Fluid Mechanics 1
- HES2146 Computer Aided Engineering

**Year 3**

**Semester 1**
- HES3150 Geotechnical Engineering

- HES3110 Civil Design & materials
- HES3120 Structural Design
- XXXXXXXX Business subject

**Semester 2**
- HES4125 Structural Engineering Applications
- HES4115 Civil Engineering Applications
- HES4135 Transport Engineering, OR
- HES4145 Structural Engineering
- XXXXXXXX Business subject

**Year 4**

**Semester 1**
- HES5110 Design & Construction 1
- HES5130 Water Engineering, OR
- HES5140 Structural Engineering 2
- XXXXXXXX Business subject
- XXXXXXXX Business subject

**Semester 2**
- HES5125 Design & Construction 2
- HES5135 Local Planning and Engineering Systems, or
- HES5320 Solid Mechanics
- XXXXXXXX Business subject
- XXXXXXXX Business subject

**Year 5**

**Semester 1**
- XXXXXXXX Business subject
- XXXXXXXX Business subject
- XXXXXXXX Business subject
- XXXXXXXX Business subject

**Semester 2**
- XXXXXXXX Business subject
- XXXXXXXX Business subject
- XXXXXXXX Business subject
- XXXXXXXX Business subject

**Entry requirements**
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.
VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any) and a study score of 20 in Mathematical Methods and in one of Biology, Chemistry, Information Technology: Information Systems, Physics, Psychology or Specialist Mathematics.

**Application procedure**
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).
Applications for part-time places should be made directly to the School of Engineering and Science.

**Further information**
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au
EB051 Bachelor of Engineering (Electronics and Computer Systems) / Bachelor of Business
VTAC code: 34581 (HECS), 34583 (Int. Fee)
2001 Clearly-in ENTER: 80.95

This double degree involves the study of engineering and business subjects. Students complete the first year of the standard Bachelor of Engineering degree. In second year they commence the Electronics and Computer Systems stream. Business studies commence in the third year of the program allowing studies in Accounting, Law, Economics, Finance, Management and Marketing.

Aims & Objectives
This double degree course has the following objectives:

- Develop in students a mastery of a wide spectrum of basic engineering principles underlying electronic and computer systems engineering balanced with a broad inter disciplinary knowledge associated with business.
- Develop in students a thorough understanding of a broad range of engineering methods and techniques, and competence in their application, so that students are able to comprehend and analyse problems and obtain satisfactory design solutions which, where appropriate, show originality and resourcefulness.
- Develop students’ communication skills so that they can present their ideas clearly by verbal, written and graphical means.
- Give students an appropriate introduction to the role of the professional engineer in the community in conjunction with broader social responsibilities in the field of business management.
- Explore the social effects of engineering decisions and to prepare students for the changing workplace and changing societal context of engineering by developing their life-long learning skills and flexibility of mind.

Campus
Hawthorn

Career opportunities
Microprocessor applications, telecommunications and the ‘information superhighways’, analog and digital electronics design, systems modelling and control, and chip design, are some of the career opportunities available to students who complete this course.

Professional recognition
Graduates are eligible to apply for graduate membership of the Institution of Engineers, Australia (IEAust).

Course duration
Five years full-time. An optional and additional year of Industry-based Learning (IBL) may also be available.

Structure
This course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed to be equivalent to one hour of student work per week over a semester, whether in contact with staff or in private study. Four subjects will generally be taken each semester. The typical student’s average weekly workload during semester is therefore expected to be fifty hours. This course can only be undertaken on a full-time basis. Total student contact hours, including lectures, classes, tutorials, laboratory and field sessions, will be approximately 20 hours per week during academic semesters.

Students may undertake two semesters of supervised Industry-based Learning (IBL), which forms an integral part of the course. IBL is usually taken between the 5th and 7th academic semesters of study.

A total of 40 subjects (24 engineering and 14 business plus 2 electives chosen from either engineering or business) are to be completed.

Engineering Component
This component comprises a minimum of 24 mandatory subjects as specified in the degree planner.

Business Component
This component comprises a minimum of 14 business subjects, which usually starts in the 5th academic semester. You will need to plan your business subjects and make sure you structure your course to include the following:

Five Core Subjects

<table>
<thead>
<tr>
<th>Subject</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountings</td>
<td>HBC110</td>
</tr>
<tr>
<td>Microeconomics</td>
<td>HBE110</td>
</tr>
<tr>
<td>Organisations</td>
<td>HBH110</td>
</tr>
<tr>
<td>Law</td>
<td>HBL111</td>
</tr>
<tr>
<td>Marketing Concept</td>
<td>HBM110</td>
</tr>
</tbody>
</table>

One Business Major
A major consists of six post-core subjects with at least two at Stage 3 level, from one specialisation. Except where specific, requirements are specified under individual majors of study information outlined in the Bachelor of Business specialisation section of this handbook.

At least three additional business subjects must be undertaken in order to total a minimum of 14 subjects.

Business subjects must include at least two management subjects in addition to HBH110 Organisations and Management, and four subjects from Stage 3.

Course subjects
The following subjects are each worth 12.5 credit points.

Semester 1

- Engineering Mathematics 1: HMS111
- Energy & Motion: HET124
- Professional Engineering: HET1000
- Materials & Processes: HES1230
- Engineering Project: HET1005

Semester 2

- Engineering Mathematics 2: HMS112
- Mechanics of Structures: HES1125
- Electronic Systems: HET182
- Engineeering Project: HET1005

Semester 3

- Engineering Mathematics 3B: HMS213
- Electronics: HET210
- Circuits: HET212
- Introduction to Programming: HIT2080

Semester 4

- Engineering Mathematics 4B: HMS214
- Software Development for Engineers: HIT3081
- Electrical Machines: HET225
- Embedded Microcontrollers: HET232

Semester 5

- Analog Electronics Design: HET310
- Control & Automation: HET312
- Communications Principles Business 1: HET314

Semester 6

- Digital Electronics Design: HET431
- Digital Signal & Image Processing: HET329
- Business 2: HET550
- Business 3: HET551

 Semester 7

- Design & Development Project 1: HET552
- Business 4: HET489
- Business 5: HET489
- Business 6: HET489

Semester 8

- Design & Development Project 2: HET556
- Robotic Control: HET489
- Business 7: HET489
- Business 8: HET489
### Semester 9
- Electrical Engineering Elective* or Business 9
- Business 10
- Business 11
- Business 12

### Semester 10
- Electrical Engineering Elective* or Business 13
- Business 14
- Business 15
- Business 16

* Electives will be offered subject to a sufficient number of enrolments.

**Entry requirements**
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 English (any) with a study score of at least 25, Mathematical Methods, and one of Physics, Chemistry, Biology, Psychology, Information Technology (Information Systems) or Specialist Mathematics.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

**Application procedure**
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

**Further information**
Contact the School of Biophysical Sciences and Electrical Engineering
- Telephone: +61 3 9214 9859
- Fax: +61 3 9819 0856
- Email: bsee@swin.edu.au
- Website: www.swin.edu.au/bioscieleceng

### EMA050 Bachelor of Engineering (Mechanical) / Bachelor of Arts
**VTAC code: 34611 (HECS), 34613 (Int. Fee)**

2001 Clearly-in ENTER: 80.95

This course offers students a double degree course in engineering and arts subjects, and is designed to increase student knowledge, skills and understanding of engineering principles in a specific discipline and fundamental knowledge of arts studies.

The course includes an optional, additional Industry-based Learning (IBL) segment, in which students are placed in paid, supervised employment as part of their degree program. IBL gives students practical experience to add to their academic studies and is a proven advantage in the graduate job market.

All IBL placements are subject to availability and require suitable English language skills.

**Campus**
Hawthorn

**Career opportunities**
Graduates of this double degree program may select paths from either Engineering or Arts or both discipline areas. Graduates will have an advantage in the market place compared to those with single discipline degrees.

**Professional recognition**
Graduates are eligible for membership of The Institution of Engineers, Australia.

**Course duration**
Five years full-time, plus one year optional Industry-based Learning and/or study abroad.

**Structure**
Stage 1: Students follow the common first year for all engineering courses.
Stage 2: Students elect the Mechanical engineering stream.
Stage 3: Students continue with Mechanical stream of engineering and commence the study of arts subjects.
Arts component: Students study a total of fourteen subjects taken from the arts or business area and these must include:
- One full arts major.
- HBH110 Organisations and Management.
- Two additional approved management subjects.

Stage 4 & 5: Continuation of specialist engineering and arts subjects.
For arts majors, refer to the Arts Majors/Minors section in this handbook.

**Course subjects**

### Year 1

#### Semester 1
- HES1300 Robotics & Mechatronics Project 1
- HET124 Energy & Motion
- HES1230 Materials & Processes
- HMS111 Engineering Maths 1

#### Semester 2
- HES1305 Robotics & Mechatronics Project 2
- HES1125 Mechanics of Structures
- HET1182 Electronic Systems
- HMS112 Engineering Maths 2

### Year 2

#### Semester 1
- HMS211 Engineering Maths 3A
- HES2146 Computer Aided Engineering
- HES2330 Thermodynamics 1
- HES2120 Structural Mechanics 1

#### Semester 2
- HES2310 Machine Dynamics 1
- HES2340 Fluid Mechanics 1
- HES2280 Manufacturing Technology 1
- HES2230 Engineering Materials

### Year 3

#### Semester 1
- HES3350 Machine Design
- HES3300 Human Factors
- HES3310 Control Engineering
- XXXXXXX Arts subject

#### Semester 2
- HES4350 Mechanical Systems Design
- HES5320 Solid Mechanics, OR
- XXXXXXX Arts subject
- HES4330 Thermodynamics 2, OR
- XXXXXXX Arts subject
- XXXXXXX Arts subject
- XXXXXXX Arts subject

### Year 4

#### Semester 1
- HES5310 Machine Dynamics 2, OR
- XXXXXXX Arts subject
- HES5340 Fluid Mechanics 2, OR
- XXXXXXX Arts subject
- XXXXXXX Arts subject
- XXXXXXX Arts subject

#### Semester 2
- HES5350 Product Design
- HES5106 Research Project
Course duration
Five years full-time, plus one year optional Industry-based Learning may be available.

Structure
Stage 1: Students follow the common first year for all engineering courses.
Stage 2: Students elect the Mechanical engineering stream.
Stage 3: Students continue with the Mechanical engineering stream and commence the study of business core subjects.
Business Core:
- HBC110 Accounting 1
- HBE110 Microeconomics
- HBB110 Organisations and Management
- HBM110 The Marketing Concept

Stage 4 & 5: Continuation of specialist engineering and business subjects. For details of business majors, refer to the Business Specialisation section in this handbook.

Course subjects
Year 1

Semester 1
- HES1300 Robotics & Mechatronics Project 1
- HET124 Energy & Motion
- HMS111 Engineering Maths 1

Semester 2
- HES1305 Robotics & Mechatronics Project 2
- HES1125 Mechanics of Structures
- HET182 Electronic Systems
- HMS112 Engineering Maths 2

Year 2

Semester 1
- HMS211 Engineering Maths 3A
- HES2146 Computer Aided Engineering
- HES2300 Thermodynamics 1
- HES2120 Structural Mechanics 1

Semester 2
- HES2310 Machine Dynamics 1
- HES2340 Fluid Mechanics 1
- HES2280 Manufacturing Technology 1
- HES2230 Engineering Materials

Year 3

Semester 1
- HES3350 Machine Design
- HES3380 Human Factors
- HES3310 Control Engineering
- XXXXXXX Business subject

Semester 2
- HES4350 Mechanical Systems Design
- HESS320 Solid Mechanics, OR
- XXXXXXX Business subject
- XXXXXXX Business subject
- XXXXXXX Business subject

Year 4

Semester 1
- HESS310 Machine Dynamics 2, OR
automated plant and robots. Robots are computer controlled mechatronics devices, which have been used to assist humans in various tasks. While the majority of robots have been used in manufacturing, a recent trend has seen robots used in a variety of applications including space and underwater exploration, medicine and a wide range of service industries. The discipline of robotics embraces the design and operation of these devices and their integration with other systems in the work environment.

Graduates of this course will have extensive skills in integrating engineering with software development, particularly relating to multi-disciplinary projects, and will have developed experience in working on team projects. They will also have well-developed oral, written and graphical communication skills.

Aims & Objectives
The course aims to develop in students:

- A mastery of the basic scientific principles underlying robotics and mechatronics.
- A sound knowledge of engineering, computer science and software engineering.
- A thorough understanding of engineering methods and the ability to apply them competently, and where appropriate, with originality and resourcefulness.
- An understanding of the principles of management and the financial aspects of engineering.
- Communication skills so that students can present their ideas clearly by verbal, written and graphical means.
- Self-educative skills and flexibility of mind so that students are prepared for a world of accelerating technological change.
- The skills necessary for working in a software development team on a large scale project.
- An understanding of the process of software development.
- Skills in the object-oriented approach to systems analysis, design and implementation.
- The communication and management skills required to successfully manage software development projects.
- An understanding of social, legal and ethical issues confronting the software and engineering professional.
- Knowledge and experience in human factors, knowledge-based systems, database systems and data communications.

Campus
Hawthorn

Career opportunities
Graduates from this program can take up careers in a wide spectrum of industries including robotics, aerospace, chemical, defence, automotive and manufacturing where complex software plays a major role, as well as in businesses that require extensive computer support, such as banking and commerce. Contributions can be made to these industries in a variety of roles including design engineer, software engineer, project planner, product designer and project manager to name a few.

Professional recognition
Graduate membership of The Institution of Engineers, Australia and credit at Professional Level (the highest level) towards membership of the Australian Computer Society.

Course duration
Five years full-time plus an optional year of Industry-based Learning. This course is not available on a part-time basis.

Structure
The first year of the program focuses mainly on the basic engineering sciences, mathematics, electronics and computing; subjects which form the foundation of the disciplines of Robotics & Mechatronics and Computer Science and Software Engineering. A unique feature of the first year program is the incorporation of the Robotics & Mechatronics subject which is undertaken in project mode. This subject is designed to stimulate student interest and provide an understanding of the elements that make up the disciplines of Robotics & Mechatronics and Computer Science & Software Engineering.

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any) and a study score of 20 in Mathematical Methods and in one of Biology, Chemistry, Information Technology: Information Systems, Physics, Psychology or Specialist Mathematics.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Applications for part-time places should be made directly to the School of Engineering and Science on the appropriate form.

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

ERCS050 Bachelor of Engineering (Robotics and Mechatronics) / Bachelor of Science (Computer Science & Software Engineering)

VTAC code: 34091 (HECS), 34093 (Int. Fee)
2001 Clearly-in ENTER: 91.00

There is clear synergy between the Bachelor of Engineering (Robotics and Mechatronics) and Bachelor of Science (Computer Science & Software Engineering) courses which, when combined, results in a homogenous and focused course. Graduates will possess a combination of skills that will allow them to make a valuable contribution to society.

Today’s society is dependent on complex computer-based systems. From online, multimedia electronic commerce to air-traffic control, from enterprise-wide systems in manufacturing to interactive games, the computer has invaded all of our lives. Complex computer systems are built by teams of professionals who have the technical expertise, project know-how and communication skills that are best achieved by studying computer science and software engineering in depth.

Mechatronics combines mechanical, electrical, electronic and software engineering in the design, development and control of diverse systems used in a range of industries including manufacturing, medicine and the service industries. Examples of mechatronic systems include aircraft, whitegoods, automobiles,
Semester 1
Year 5
HET550 Design & Development Project 1
HIT3047 Real Time Programming
HIT2024 Introduction to Human Computer Interaction
HIT2658 Software Engineering Project

Semester 2
HIT3058 Software Engineering Project
HIT3041 Advanced Web Development
HIT3102 Intelligent Agents
HIT3044 Professional Issues in Information Technology

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.
VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English [any], Mathematical Methods and in one of Biology, Chemistry, Information Technology: Information Systems, Physics, Psychology or Specialist Mathematics.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

E069Y Bachelor of Engineering (Telecommunications and Internet Technologies) / Bachelor of Science (Computer Science and Software Engineering)
VTAC code: 34791 (HECS), 34793 (Int. Fee)
2001 Clearly-in ENTER: 87.85

This double degree course provides education for professional careers in the converging telecommunications, internet and information industries. It has a major focus on the application of computers and computer networking in the internet/telecommunications field, and the software engineering techniques involved.

Aims & Objectives
This course aims:
- To develop in students a broad mastery of the basic science and engineering principles underlying telecommunications and internet technologies, including the computing technologies (hardware and software), and an ability to apply that knowledge.
- To develop in students a thorough understanding of appropriate engineering methods and techniques, and competence in their application, so that students are able to comprehend and analyse problems and obtain satisfactory design solutions which, where appropriate, show originality and resourcefulness.
- To develop students' communication skills so that they can present their ideas clearly by verbal, written and graphic means both within the engineering community and the community at large.
- To give students an appropriate introduction to the role of the professional engineer in the community and to explore the social effects of engineering decisions.
- To develop moral, social, aesthetic, environmental and ethical concepts essential to a satisfying personal philosophy and a sound professional attitude.
- To develop abilities to function effectively as an individual and in project teams, whether as manager, leader or team member.
To prepare students for the changing workplace and the changing societal context of engineering by developing their life-long learning skills and flexibility of mind.

**Course subjects**

The following subjects are each worth 12.5 credit points.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 1</td>
<td>HET121</td>
<td>Introduction to Telecommunications</td>
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<tr>
<td></td>
<td>HET313</td>
<td>Telecommunication Technologies</td>
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<td></td>
<td>HIT1051</td>
<td>Software Development 1</td>
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<td></td>
<td>HMS111</td>
<td>Engineering Mathematics 1</td>
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<tr>
<td>Semester 2</td>
<td>HET224</td>
<td>Computer Communications &amp; LAN's</td>
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<tr>
<td></td>
<td>HIT182</td>
<td>Electronic Systems</td>
</tr>
<tr>
<td></td>
<td>HIT1052</td>
<td>Software Development 2</td>
</tr>
<tr>
<td></td>
<td>HMS112</td>
<td>Engineering Mathematics 2</td>
</tr>
<tr>
<td>Semester 3</td>
<td>HET210</td>
<td>Electronics</td>
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<tr>
<td></td>
<td>HIT432</td>
<td>Internetworking</td>
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<td></td>
<td>HIT3072</td>
<td>C++ for Programmers</td>
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<tr>
<td></td>
<td>HMS213</td>
<td>Engineering Mathematics 3B</td>
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<tr>
<td>Semester 4</td>
<td>HET123</td>
<td>The Internet &amp; WWW 2</td>
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<td></td>
<td>HET410</td>
<td>Network Administration</td>
</tr>
<tr>
<td></td>
<td>HIT1031</td>
<td>Introduction to Software Engineering</td>
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<tr>
<td></td>
<td>HMS214</td>
<td>Engineering Mathematics 4B</td>
</tr>
</tbody>
</table>

**Career opportunities**

Graduates will find rewarding high-tech careers in the converging telecommunications, Internet, information and software engineering industries. They may become an internet applications engineer, a telecommunications link designer, an embedded computing systems designer, an embedded software systems designer, a network switching and protocol designer, an analyst/designer/manager of internal corporate multimedia networks, or a network administrator/web-master.

**Professional recognition**

Membership of The Institution of Engineers, Australia and the Australian Computer Society.

**Course duration**

Five years full-time. An optional and additional year of Industry-based Learning (IBL) may also be available.

**Structure**

This course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed to be equivalent to one hour of student work per week over a semester, whether in contact with staff or in private study. Four subjects will generally be taken each semester. The typical student’s average weekly workload during semester is therefore expected to be fifty hours. Total student contact hours, including lectures, classes, tutorials, flexible learning and laboratory and field sessions will vary in different semesters.

**Professional careers**

Professional careers in the converging telecommunications and Internet industries, or research and development photonics-based research.

**Application procedure**

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

**Further information**

Contact the School of Biophysical Sciences and Electrical Engineering

Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: www.swin.edu.au/bioscieleceng

**Entry requirements**

Satisfactory completion of an appropriate Victorian Year 12 or its equivalent. VCE prerequisites: Units 3 & 4 - English (any) with a study score of at least 25, and Mathematical Methods or Specialist Mathematics.

**New course for 2002**

Photonics involves the control, transfer and storage of information using light, and it will play a major role in current and future generations of telecommunications and information systems. The course provides an in-depth understanding of photonics (light, lasers, optics, optoelectronics etc.) and telecommunications (local and global digital networking, mobile and fibre optics communications etc.).

**Career opportunities**

Professional careers in the converging telecommunications and Internet industries, or research and development photonics-based research.

**Professional recognition**

Membership of The Institution of Engineers, Australia.

**Course duration**

Five years full-time. An optional and additional year of Industry-based Learning (IBL) may also be available.
Structure
The course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed equivalent to one hour of student work per week for one semester whether in contact with staff or in private study. Four subjects will be taken per semester, each subject having a value of 12.5 credit points. The typical student’s average weekly workload during semester is therefore expected to be 50 hours.

Course subjects

**Stage 1**

**Semester 1**
- HMS111 Engineering Mathematics 1
- HET124 Energy & Motion
- HET313 Telecommunications Technologies
- HIT1051 Software Development 1

**Semester 2**
- HMS112 Engineering Mathematics 2
- HET182 Electronic Systems
- HET103 Photonics 1
- HIT1052 Software Development 2

**Stage 2**

**Semester 1**
- HMS213 Engineering Mathematics 3B
- HET210 Electronics
- HET128 Physics
- HET417 Photonics & Fibre Optics

**Semester 2**
- HMS214 Engineering Mathematics 4B
- HET224 Computer Communications & LAN’s
- HET203 Photonics 2
- HET205 Introduction to Modern Optics

**Optional IBL Year***

**Stage 3B**

**Semester 1**
- HET314 Communications Principles
- HET206 Modern Physics
- HET2072 C++ for Programmers
- HET204 Photonics 3

**Semester 2**
- HET209 Fibre Optics Communications & Optical Instrumentation
- HET329 Digital Signal & Image Processing
- HET232 Embedded Microcontrollers
- HIT1031 Introduction to Software Engineering

**Stage 4B**

**Semester 1**
- HET410 Network Administration
- HET432 Internetworking
- HET310 Analog Electronics Design
- HET316 Electromagnetic Waves

**Semester 2**
- HET315 Communication Information Theory
- HET431 Digital Electronics Design
- HET424 IP Technologies
- HET207 Modelling & Simulation Projects

**Stage 5B**

**Semester 1**
- HES5380 Engineering Management 2

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HET336 Network Engineering
HET436 Broadband Multimedia Networks
HET550 Design & Development Project 1

**Semester 2**
- HES5385 Engineering Management 3
- HAM315 Info Society: A Global Perspective
- HET452 Wireless Communications
- HET556 Design & Development Project 2

* An optional year of (paid) Industry-based Learning may be taken at the end of Stage 2.

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent.

VCE Prerequisites: Units 3 and 4 - English (any), and Mathematical Methods. Bonus points given for Physics, Specialist Mathematics and/or Information Systems.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: www.swin.edu.au/photonics

**E062Y Bachelor of Science (Research and Development) / Bachelor of Engineering (Electronics and Computer Systems)**

VTAC code: 34531 (HECS)
2001 Clearly-in ENTER: Individual offer

This program is listed under the Swinburne University Vice-Chancellor’s Scholarship Scheme in the VTAC guide.

This double degree course, commonly known as Science/Engineering Research and Development, has the objectives of the degree course of Bachelor of Engineering in Electronics and Computer Systems, and in addition aims to prepare highly capable students for careers in science and engineering, and in particular, in research and development laboratories by participation in research projects with leading research groups in each year of the double degree.

Up to 6 HECS exemption scholarships are available for students commencing the course with superior academic backgrounds.

Aims & Objectives
This double degree course, commonly known as Science/Engineering Research and Development, has the objectives of the degree course of Bachelor of Engineering in Electronics and Computer Systems, and in addition aims to:

- Prepare highly-capable students for careers in science and engineering and in particular, research and development laboratories.
- Introduce highly capable students to a component of engineering and science research, under individual, expert guidance and mentoring, from the first year of their course.
- Develop, under individual guidance and mentoring, skills in project planning, design, organisation and execution.
- Encourage students to be independent, self-motivated, lifelong learners.
- Communicate effectively; both in collaborating with research teams in a range of science and engineering research areas, and in the writing of research reports and publications (where appropriate).
- Encourage students to be creative and innovative in the application of basic science and engineering fundamentals to research and development.
- Develop in depth technical competence in at least one area of engineering research and/or development.
Career opportunities
Professional employment in research and development laboratories and careers in engineering and science generally.

Professional recognition
Graduates are expected to be eligible to apply for graduate membership of The Institution of Engineers, Australia.

Course duration
Five years full-time including industry research and development experience.

Structure
This course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed to be equivalent to one hour of student work per week over a semester, whether in contact with staff or in private study. Four subjects will generally be taken each semester. The typical student's average weekly workload during semester is therefore expected to be fifty hours. Total student contact hours, including lectures, classes, tutorials, flexible learning and laboratory and field sessions will vary in different semesters. Students in this program undertake research and development projects with research centres in each year of their degree. Examples of projects can be found at www.swin.edu.au/bsee/mazzo/RandD/.

Course subjects
The following subjects are each worth 12.5 credit points unless otherwise indicated.

Semester 1
HMS111 Engineering Mathematics 1
HET124 Energy & Motion
HET1000 Professional Engineering
HET102 Introductory Physiology

Semester 2
HMS112 Engineering Mathematics 2
HET101 Research & Development Project 1
HET182 Electronic Systems
Elective (Choose one):
HET133 Human Physiology
HET603 Exploring Stars and the Milky Way

Semester 3
HMS213 Engineering Mathematics 3B
HET210 Electronics
HET128 Physics 2
HIT1051 Software Development 1

Semester 4
HMS214 Engineering Mathematics 4B
HET232 Embedded Microcontrollers
HET201 Research & Development Project 2
HIT1052 Software Development 2

Semester 5
HET212 Circuits
HET312 Control and Automation
HET305 Research and Development Project 3
Elective (Choose one):
HIT3072 C++ for Programmers
HET227 Neuropsychology
HET504 Quantum Mechanics A
HET603 Exploring the Stars & the Milky Way
HET425 Nucleonics & Spectroscopy

Semester 6
HET229 Digital Signal & Image Processing
HIT1031 Introduction to Software Engineering
Elective (Choose two):
HET419 Physiological Modelling
HET604 Exploring Galaxies & the Cosmos
HET611 Introduction to Stellar Astrophysics
HIT2016 Database 1
HET226 Sensory Systems

Semester 7
HET405 Research & Development Project 4

Semester 8
HET489 Robotic Control
HET423 Intelligent Systems
HET431 Digital Electronics Design
HET501 Research & Development Project 5

Semester 9
HET601 Research & Development Project 6
HET314 Communications Principles
HET417 Photonics & Fibre Optics
HES5380 Engineering Management 2

Semester 10
HET701 Research & Development Project 7
HET224 Computer Communications & LAN's
HES5380 Engineering Management 1
HES5385 Engineering Management 3
Electives will be offered subject to a sufficient number of enrollments. Students may not take more than 2 of:
HET603 Exploring the Stars & the Milky Way
HET604 Exploring Galaxies & the Cosmos
HET611 Introduction to Stellar Astrophysics

Entry requirements
Satisfactory completion of an appropriate Victorian Year 12 or its equivalent.
VCE prerequisites: Units 3 & 4 - English (any) with a study score of at least 25, Physics, and Mathematical Methods or Specialist Mathematics.
Entry will be restricted to students with very high ENTER scores, and the selection process may include an interview. Special entry conditions and advanced standing do not apply to this double degree.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: www.swin.edu.au/bioscieleceng
EATB050 Bachelor of Technology (Air Transportation Management) / Bachelor of Business

VTEC code: 34421 (HECS), 34423 (Int. Fee)
2001 Clearly-in ENTER: Individual offer

The Air Transportation Management course provides the necessary preparation for professional careers in the air transportation industry.

Aims & Objectives
The aim of this course is to provide an alternative non-flying degree to the Bachelor of Technology (Aviation) course and to prepare students for professional careers in the air transportation industry. The additional business studies aim to expand the range of employment opportunities into management areas.

Campus
Hawthorn

Career opportunities
The Air Transportation Management course prepares students for professional careers in the following areas:
- Airline management
- Airline flight operations
- Airline ground operations
- Airport management
- Airport operations
- Airport planning
- Aviation consultancy firms
- Aviation charter firms
- Air services
- Aviation regulatory and safety services
- Aviation safety authorities

Professional recognition
The combined degree fulfills the educational requirements for associate membership of the Institute of Corporate Managers, Secretaries and Administrators, affiliate membership of the Australian Institute of Banking and Finance, accreditation by the Australian Institute of Management (pending).

Course duration
Four years full-time plus six months to one year optional Industry-based Learning.

Course subjects
Year 1
Semester 1
HES1920 General Flying Progress Theory
HET124 Energy and Motion
HMS141 Aviation Mathematics
HES1910 Human Factors & Communication

Semester 2
HES2925 Air Transport Pilot Licence 1
HES1935 Internal combustion & Gas Turbine Engines
HES1945 Aircraft Electrics & Avionics
HES1915 Occupational Health & Safety

Year 2
Semester 1
HES2980 Airport Planning & Management
HES2940 Aircraft Aerodynamics & Performance
HES2930 Aircraft Structures
HES2910 Human Factors & Performance

Semester 2
HES4155 Urban Infrastructure Management
HES3915 Airline Operations

Year 3
Semester 1
HES4990 Aviation Law
HES4980 Aviation Facilities Management & Contemporary Issues

Semester 2
XXXXX Business subject

Year 4
Semester 1
XXXXX Business subject

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au
Website: www.swin.edu.au/aviation/

EAB050 Bachelor of Technology (Aviation) / Bachelor of Business

VTEC code: 34511 (HECS), 34513 (Int. Fee)
2001 Clearly-in ENTER: 85.65

This four year full-time degree prepares students for careers in the air transportation industry as professional pilots. The course incorporates the theory subjects required by the Australian Civil Aviation Safety Authority (CASAA) up to Air Transport Pilot Licence (ATPL) standard. Students who successfully complete this course are awarded the degree of Bachelor of Technology (Aviation) and will also gain a Commercial Pilot Licence (CPL). Additionally, professional education in the world of business will be provided.
**Aims & Objectives**
The aim of the course is to prepare students for careers in the aviation industry as professional pilots. Skill training and education processes are weighted equally in the course where there is a need to provide a high level of both flying prowess and the ability to solve problems through the application of methodical and rational thinking. High quality Commercial Pilot Licence training is augmented with educational topics designed to provide an optimum balance between the range of areas required by today’s professional pilots. Aviation Human Factors training, Aviation Management and additional aircraft specific engineering topics are included to attain this objective. Additionally, the double degree will facilitate graduates to effectively enter the aviation business and particularly the management areas.

**Career opportunities**
This course prepares students for aviation careers in the air transportation industry as professional pilots.

**Professional recognition**
The B.Tech(Aviation) and B.Tech(Aviation)/BBus courses are designed to take students beyond the requirements for the Civil Aviation Safety Authority (CASA), Air Transport Pilot Licence (ATPL) theory examination and Commercial Pilot Licence (CPL(A)) practical test. The combined degree additionally fulfills the educational requirements for associate membership of the Institute of Corporate Managers, Secretaries and Administrators, affiliate membership of the Australian Institute of Banking and Finance, accreditation by the Australian Institute of Management (pending).

**Course duration**
Four years full-time.

**Course subjects**

| Year 1 | Semester 1 | HES1900 | General Flying Progress Theory |
| | | HET124 | Energy & Motion |
| | | HMS141 | Aviation Mathematics |
| | | HES1910 | Human Factors & Communication |
| | Semester 2 | HES1905 | Commercial Pilot Licence 1 |
| | | HES1935 | Internal Combustion & Gas Turbine Engines |
| | | HES1945 | Aircraft Electrics & Avionics |
| | | HES1915 | Occupational Health & Safety |
| Year 2 | Semester 1 | HES2900 | Commercial Pilot Licence 2 |
| | | HES2940 | Aircraft Aerodynamics & Performance |
| | | HES2930 | Aircraft Structures |
| | | HES2910 | Human Factors & Communication |
| | Semester 2 | HES2905 | Air Transport Pilot Licence 1 |
| | | HES2985 | Aviation Business Management |
| | | XXXXXX | Business subject |
| | and one of: | HES2935 | Aircraft Maintenance |
| | | HES4915 | Crew Resource Management & Instructional Techniques |
| | | HES4985 | Airspace Management & Air Traffic Services |
| Year 3 | Semester 1 | HES4900 | Air Transport Pilot Licence 2 |
| | | HES4980 | Aviation Law |
| | | HES4980 | Aviation Facilities Management & Contemporary Issues |
| | | XXXXXX | Business subject |

**Semester 2**

| HES4905 | Air Transport Pilot Licence 3 |
| XXXXXX | Business subject |
| XXXXXX | Business subject |
| XXXXXX | Business subject |

**Year 4**

| Semester 1 | XXXXXX | Business subject |
| XXXXXX | Business subject |
| XXXXXX | Business subject |
| XXXXXX | Business subject |
| Semester 2 | XXXXXX | Business subject |
| XXXXXX | Business subject |
| XXXXXX | Business subject |

**Entry requirements**
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or International Year 12 qualification. VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any), and a study score of 20 in Mathematical Methods and in one of Biology, Chemistry, Physics, Specialist Mathematics, Information Technology/Information Systems, Psychology.

**Application procedure**
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC). International students, who are not currently studying a Victorian Year 12, should contact the International Student Unit on +61 3 9214 8647 or via Email: inti-admissions@swin.edu.au

**Further information**
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au
Website: www.swin.edu.au/aviation/

**HEALTH and HUMAN SERVICES**

**Z052 Bachelor of Applied Science (Biochemistry)**

| VTAC code: 34601 (HECS), 34603 (Int. Fee) |
| 2001 Clearly-in ENTER: Individual offer |

Biochemistry is the study of molecules of life, their structure and role(s) in the processes of animals, plants and micro-organisms. It has application in all areas of life where an understanding of the molecular basis of biology is important - from nutrition and agriculture through to medicine and psychology.

The course examines how biochemical knowledge can be applied to a range of industries and medical investigations, and especially emphasises practical skills ranging from the culturing of micro-organisms through to the investigation of complex molecules such as enzymes and DNA. As well as scientific skills, the course develops general skills that are important in the day to day operations of the professional biochemist, including computing, team-working, management, problem-solving, knowledge of legal, safety and professional obligations, and communication skills. The course also includes studies of the chemistry that underlies biochemistry and the role of chemistry in society, industry and the environment.
Semester 1
Course subjects
HES1500 Introduction to Chemistry
HMS101 Foundation Mathematics
HT2079 Computing for Chemists
HES1610 Human Biology

Semester 2
HES1525 Chemistry 2
HES1555 Consumer Science
HES1616 Concepts of Biotechnology
HMS102 Introduction to Statistics

Semester 3
HES2540 Forensic and Analytical Science
HES2510 Investigative Chemistry Prac 1
HES2621 Introduction to Biochemistry
HES2631 The Microbial World

Semester 4
HES2520 Chemistry 3
HES2515 Investigative Chemistry Prac 2
HES2626 Biochemistry of Genes and Proteins
HES2636 Microbes in the Environment

Semester 5
HES3500 Industry-based Learning (IBL)

Semester 6
HES3505 Industry-based Learning (IBL)

Semester 7
HES4500 Chemistry 5
HES4510 Practical & Professional Skills 5
HES4620 Biochemistry 3
HES4640 Practical Biochemistry 3

Semester 8
HES4505 Chemistry 6
HES4645 Biochemistry Project
HES4625 Biochemistry 4
Elective

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any) and in one of biology or chemistry and in one of Mathematical Methods or Specialist Mathematics.

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8284
Email: engsct@swin.edu.au

Z049 Bachelor of Applied Science
(Psychology/Biochemistry)
VTAC code: 34161 (HECS), 34163 (Int. Fee)
2001 Clearly-in ENTER: Individual offer

This course covers both psychology and biochemical structures and processes that underpin and influence human behaviour. Special topics deal with neurological processes and biochemistry of the brain. Psychology studies emphasise vocational skills and knowledge relevant to applied fields. Biochemistry is the study of the structures and processes of living things based on the principles of chemistry and biology. An honours year is also available.

Aims & Objectives
The course aims to:
- Develop in students a mastery of the basic scientific principles underlying biochemistry and psychology.
- Develop a thorough understanding of methods and strategies in biochemistry and psychology, and competence in their application, so that students are able to comprehend and analyze problems and obtain satisfactory solutions which, where appropriate, show originality and resourcefulness.
- Develop students' communication skills for clear verbal, written and graphic presentation.
- Give students an appropriate introduction to the role of the professional scientist in the community and to explore the social effects of scientific decisions; these studies are aimed at developing moral, social, aesthetic, environmental and ethical concepts essential to a satisfying personal philosophy and a sound professional attitude.
- Prepare students for the changing workplace and the changing social context of science by developing their life-long learning skills and flexibility of mind.

Campus
Hawthorn

Career opportunities
Biochemists work in many areas, including medical research, environmental research, clinical biochemistry, biotechnology, microbiology, food production, agricultural biochemistry, beverage production, fermentation technology, pharmaceutical production, biomolecular research, protein engineering, wine science, waste treatment, biodegradation and bioremediation. Some graduates move quickly into sales, marketing, business analysis and management associated with the biochemical and chemical industries.

Professional recognition
The Royal Australian Chemical Institute has accredited this course for the purposes of professional recognition.
Graduates are also eligible for membership of:
- Australian Society for Biochemistry and Molecular Biology (ASBMB)
- Australian Society for Microbiology (ASM)
- Australian Biotechnology Association (ABA)

Course duration
Four years full-time including one year Industry-based Learning (IBL).

Course subjects
Semester 1
HES1500 Introduction to Chemistry
HMS101 Foundation Mathematics
HT2079 Computing for Chemists
HES1610 Human Biology

Semester 2
HES1525 Chemistry 2
HES1555 Consumer Science
HES1616 Concepts of Biotechnology
HMS102 Introduction to Statistics

Semester 3
HES2540 Forensic and Analytical Science
HES2510 Investigative Chemistry Prac 1
HES2621 Introduction to Biochemistry
HES2631 The Microbial World

Semester 4
HES2520 Chemistry 3
HES2515 Investigative Chemistry Prac 2
HES2626 Biochemistry of Genes and Proteins
HES2636 Microbes in the Environment

Semester 5
HES3500 Industry-based Learning (IBL)

Semester 6
HES3505 Industry-based Learning (IBL)

Semester 7
HES4500 Chemistry 5
HES4510 Practical & Professional Skills 5
HES4620 Biochemistry 3
HES4640 Practical Biochemistry 3

Semester 8
HES4505 Chemistry 6
HES4645 Biochemistry Project
HES4625 Biochemistry 4
Elective

Swinburne University of Technology | Higher Education Handbook 2002
The psychology major provides a broad introduction to a range of relevant studies, with more specialised work in social psychology, personality, design and measurement, psychological measurement and abnormal psychology.

The psychophysiology major emphasises an understanding of physiological processes relevant to the study of psychology. Areas of study include physiological responses to stress, neuropsychological processes in sleep, dreaming, memory and cognition, and brain disorders. Psychophysiology also looks at the use of computers and instrumentation relevant to cognition and behaviour.

Swinburne psychology and psychophysiology students are regarded very highly in the community for their research, psychological and psychophysiological skills.

Campus

Hawthorn

Career opportunities

Graduates of the psychology/psychophysiology course have a unique blend of skills. The combination of psychological knowledge with understanding of the underlying physiological processes associated with stress, memory and psychiatric disorders, for example, gives entry to a wide range of jobs. Areas of employment include community health services as well as clinics and institutions involved in the assessment and management of neurological and psychophysiological problems. Graduates can also take up careers in sports psychology, ergonomics and areas of clinical psychology concerned with the physiological effects of emotional and mental states.

Professional recognition

The three year undergraduate sequence in psychology at Swinburne is accredited by the Australian Psychological Society.

Course duration

Three years full-time.

Structure

Students complete a three year course of study in Psychology together with a three year program in Psychophysiology involving studies in Psychophysiology, Biology, Neuroendocrinology and the Neuropsychophysiology of Mental Disorders.

Course subjects

Year 1

Semester 1

HET102 Introductory Physiology

HAY100 Psychology 100

HMA103 Statistics and Research Methods

Elective (arts and social science based, or science based)

Semester 2

HET133 Human Physiology

HET148 Technology and Data Acquisition

HAY101 Psychology 101

Elective (arts and social science based, or science based)

Year 2

Semester 1

HET227 Neurophysiology

HET219 Neurological Monitoring

HMA278 Design and Measurement 2

HAY206 Developmental Psychology

Semester 2

HET226 Sensory Systems

HET231 Perception and Motor Systems

HAY205 Cognition and Human Performance

HMA279 Design and Measurement 3

Year 3

Semester 1

HET327 Sleep & Attention

HET328 Higher Cortical Function

N051 Bachelor of Arts

(Psychology and Psychophysiology)

VTAC code: 34461 (HECS), 34463 (Int. Fee)

2001 Clearly-in ENTER: 88.90

The Bachelor of Arts (Psychology and Psychophysiology) is unique to Swinburne and offers students an undergraduate degree with majors in Psychology and Psychophysiology.
To develop self-educative skills, flexibility of mind, and an inherent ability to succeed. Because of restrictions on numbers of places, not all eligible applicants can be offered a place.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Social and Behavioural Sciences
Telephone: +61 3 9214 5209
Email: sbsadmin@swin.edu.au

H069 Bachelor of Health Science (Public and Environmental Health)

This course, formerly known as the Bachelor of Health Science (Environmental Health Management), is the only accredited course in Victoria for students seeking a career as an environmental health officer. Students study science, engineering and humanities subjects and develop a wide range of biological, technological, legal and administrative skills including planning, designing and implementing programs in community health, environmental protection, food safety, risk analysis and occupational health and safety.

Food safety, disease prevention, environmental hazards management, noise assessment, water quality and health promotion are all environmental health issues affecting community health. Environmental health management is concerned with protecting the environment and the health of people living in it and involves monitoring, assessment, correcting, controlling and education as appropriate.

Aims & Objectives
The course has the following objectives:

- To produce a professional graduate who is able to communicate the role of environmental health management to the community and deploy environmental health principles in adding value to community health and quality of life.
- To develop in students a mastery of the basic theoretical and practical principles of environmental health management and their relationship to human behaviour, social health and the environment.
- To produce a professional graduate who has a thorough understanding of environmental health methodology and the ability to interpret and apply it competently and appropriately in the relevant professional context and setting.
- To imbue the graduate with an appreciation of the role of the environmental health practitioner in society, a sense of resourcefulness, originality, impartiality and a well developed culture of community service and ethics.
- To develop self-educative skills, flexibility of mind, and an inherent recognition of the need to research and keep abreast of technological, financial, social and political change.

- To develop graduates who are able to communicate with and relate confidently to a wide range of professionals and others who interface with environmental health practice.
- To develop graduates who are able to participate in the education of society in matters of community health.
- To develop the management skills required to administer and deliver a range of environmental health services to an increasingly informed society.
- To assist students to demonstrate the necessary academic strengths and motivation to seek and obtain entry to a wide range of post graduate programs relevant to environmental health management.
- To meet the accreditation requirements for environmental health undergraduate degree programs set by the Australian Institute of Environmental Health.

Campus
Hawthorn

Career opportunities
When it comes to tracking down a food poisoning outbreak, monitoring swimming pool standards, air or noise pollution, or resolving public health issues after a natural disaster, there is one person who can be relied upon to help — an environmental health officer. The main employers of environmental health officers are commonwealth, state and local government authorities, and increasingly food and waste management industries and private consultancies. Graduates also work with overseas aid agencies in places such as Rwanda, Somalia, Vietnam and Iraq. Employment rates for graduates are consistently very high.

Professional recognition
Membership of The Australian Institute of Environmental Health.

Course duration
Three years full-time plus one year Industry-based Learning (IBL).

Course subjects

Stage 1

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<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td>HES1700 Environmental Health Management 1</td>
<td>HES1610 Human Biology</td>
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<tr>
<td>HAS100 Sociology 1 (Introductory Sociology)</td>
<td>HAS100E Introduction to Chemistry</td>
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<tr>
<td>HBSL100 Introductory Law</td>
<td>HES1616 Concepts of Biotechnology</td>
</tr>
<tr>
<td>HMS102 Introduction to Statistics</td>
<td>HES1715 Environmental Measurement</td>
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Stage 2

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<tr>
<th>Semester 1</th>
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<tbody>
<tr>
<td>HBSL200 Environmental Health Management 2</td>
<td>HES2740 Environmental Health Technology</td>
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<tr>
<td>HES2830 Microbiology</td>
<td>HES2700 Food Science</td>
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<tr>
<td>HES2705 Communicable Disease Control</td>
<td>HES2725 Food Safety 1</td>
</tr>
<tr>
<td>HES2635 Food Microbiology</td>
<td>HES2725 Food Safety 1</td>
</tr>
<tr>
<td>HES2705 Water Science</td>
<td>HES2725 Communicable Disease Control</td>
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Stage 3

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<tr>
<th>Semester 1</th>
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<tr>
<td>HES3700 Industry-based Learning</td>
<td>HES3700 Industry-based Learning</td>
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<tr>
<td>HES3705 Industry-based Learning</td>
<td>HES3705 Industry-based Learning</td>
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</tbody>
</table>
To develop in students an understanding of clinical evaluation and monitoring.

To develop in students a thorough understanding of the appropriate medical technologies and their application in the clinical environment.

To develop students' communication and management skills required to successfully manage medical technology projects.

To give students an understanding of safety, social, legal and ethical issues in the provision of healthcare and in the workplace.

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 and 4 - a study score of at least 25 in English (any), in one of Chemistry, Physics or Biology and in one of Mathematical Methods or Specialist Mathematics or a study score of at least 30 in Further Mathematics.

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

SO61 Bachelor of Science (Biomedical Sciences)

VTAC code: 34681 (HECS), 34683 (Int. Fee)

This course serves the needs of the hospital and healthcare industry for specialists with a detailed understanding of the physical aspects of human physiology and the related technologies for clinical care and biomedical monitoring. This course covers specialist theoretical and practical study of the functional aspects of the human body as well as study of the modern instrumentation and technology required in clinical care and other monitoring environments. An honours year is also available.

Aims & Objectives
This degree course has the following objectives:

- To give students a sound knowledge of anatomy, physiology, the application of physics to biomedical systems, and the appropriate application of medical technology in the clinical environment.
- To develop students a mastery of the application of physics and mathematical principles to the interpretation and study of human physiological processes.
- To develop and understanding of human pathophysiology and associated clinical techniques for identifying them.
- To develop in students a thorough understanding of the appropriate technology, instrumentation and techniques, and competence in their application, so that students are able to comprehend and analyse problems and obtain satisfactory design solutions which, where appropriate, show originality and resourcefulness.
- To introduce students to the skills necessary for working in a clinical environment as an effective team member.
- To develop in students an understanding of clinical evaluation and monitoring to assist the medical process.
- To develop in students problem solving skills in complex human-machine systems.
- To develop in students the communication and management skills required to successfully manage medical technology projects.
- To develop students' communication skills so that they can present their ideas clearly by verbal, written and graphical means.
- To give students an understanding of safety, social, legal and ethical issues confronting the paramedical professional; and knowledge and experience in human factors, knowledge-based systems, database systems and data communications.
- To give students an appropriate introduction to the role of the medical technician, or technologist or researcher in the health community.
- To give students an introduction to developing moral, social, aesthetic, environmental and ethical concepts essential to a satisfying personal philosophy and a sound professional attitude.
- To prepare students for the changing workplace and the changing societal context of medical technology by developing their life-long learning skills and flexibility of mind.

Campus
Hawthorn

Career opportunities
This course enjoys an extremely high graduate employment rate in the health care sector, medical equipment companies and sports medicine area. Hospital careers include intensive care support, medical technologists positions in cardiovascular, respiratory and neurological medicine and biomedical engineering.

Professional recognition
Graduates are eligible to apply for graduate membership of the Australasian College of Physical Scientists and Engineers in Medicine.

Course duration
Three years full-time. An optional and additional year of Industry-based Learning (IBL) is also available.

Structure
This course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed to be equivalent to one hour of student work per week over a semester, whether in contact with staff or in private study. Four subjects, each worth 12.5 credit points, will generally be taken each semester. The typical student's average weekly workload during semester is therefore expected to be fifty hours. Total student contact hours, including lectures, classes, tutorials, flexible learning and laboratory and field sessions will vary in different semesters.

At the end of second year, students with sufficiently high grades will have the opportunity to transfer into the Bachelor of Engineering (Electrical and Electronic Engineering) / Bachelor of Applied Science (Medical Biophysics and Instrumentation) double degree program. Later year transfers from the Bachelor of Applied Science (Medical Biophysics and Instrumentation) program will only be possible if students have selected appropriate electives during their studies.

Course subjects

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
<th>Semester 3</th>
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<tbody>
<tr>
<td>HET124 Energy &amp; Motion</td>
<td>HET148 Technology and Data Acquisition</td>
<td>HET210 Electronics</td>
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<tr>
<td>HET102 Introductory Physiology</td>
<td>HET182 Electronic Systems</td>
<td>HET128 Physics 2</td>
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<td>HET2080 Introduction to Programming</td>
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An appreciation of the legislation that regulates scientific activities, and an appreciation of the social context in which scientific work is undertaken, in particular those that relate to biotechnology. The course is designed to develop:

Aims & Objectives

The aim of the course is to prepare students for scientific careers in biotechnology. This course equips graduates for careers in biochemistry and biotechnology related to the medical, health, agricultural and environmental industries, and provides Pathways into honours, masters and PhD degrees.

Professional recognition

Graduates may apply for membership of the following professional societies:

- Australian Biotechnology Association
- The Australian Society for Biochemistry and Molecular Biology
- Australian Society for Microbiology

This course is also expected to meet the accreditation requirements of the Royal Australian Chemical Institute, especially if chemistry subjects are selected in the elective streams.

Course duration

Three years full-time plus an optional and additional year of Industry-based Learning (IBL).

Structure

The program involves four equally-weighted subjects per semester over three years, plus one optional year of full-time, paid, Industry-based Learning (normally undertaken after the fifth semester). Practical laboratory work is undertaken throughout the course. A research project is undertaken in final year.

The normal study mode is full-time with the courses being completed in the periods indicated. However, subject to student demand and the availability of staff, the academic component of the course may be accelerated in calendar time by undertaking Summer Semester studies. Up until the end of second year, students with sufficiently high grades in the BEng and BSc single degree programs will have the opportunity to transfer into one of the double degree programs. Later year transfers will not be feasible as they would prevent completion of the courses within the normal period of candidature.

Course subjects

Semester 1

- HES1610 Human Biology
- HIT2079 Computing for Chemists
- HES1500 Chemistry 1
- HMS101 Foundation Maths

Semester 2

- HES1616 Concepts of Biotechnology
- HES1555 Consumer Science
- HES1525 Chemistry 2
- Elective - Level 1

Semester 3

- HES2621 Introduction to Biochemistry
- HES2631 The Microbial World
- HES2510 Investigative Chemistry Prac 1
- HES2540 Forensic & Analytical Science

Semester 4

- HES2626 Biochemistry of Genes and Proteins
- HES2636 Microbes in the Environment
- HES2520 Chemistry 3
- HES2515 Investigative Chemistry Prac 2

Semester 5

- HES3500 Industry-based Learning

- An appreciation of the moral, ethical and social elements essential to a satisfying personal philosophy and a sound professional attitude.
- Skills in self education, evaluation of new information and encouragement in flexibility of thought, to prepare students for a world of accelerating technological change.

Career opportunities

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC). Further information

Contact the School of Biophysical Sciences and Electrical Engineering

Satisfaction completion of an appropriate Victorian Year 12 or its equivalent. VCE prerequisites: Units 3 & 4 - English (any) with a study score of at least 25, Physics and one of Mathematical Methods or specialist Mathematics.

Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information

Contact the School of Biophysical Sciences and Electrical Engineering

Phone: +61 3 9214 9859
Fax: +61 3 9819 0896
Email: bsee@swin.edu.au
Website: biomedical.bsee.swin.edu.au/

ESB055 Bachelor of Science (Biotechnology)

VTAC code: 34241 (HECS), 34243 (Int. Fee)

2001 Clearly-in ENTER: Individual Offer

This course equips graduates for careers in biochemistry and biotechnology related to the medical, health, agricultural and environmental industries. As sciences that underpin biotechnology, it provides in-depth studies of biochemistry, microbiology and molecular biology and the application of these sciences in biotechnology. The course provides flexible options that allow students within the course to take out major studies in chemistry, computer science, business, or media and communications.

Aims & Objectives

The aim of the course is to prepare students for scientific careers in biotechnology. The course is designed to develop:

- Mastery of the basic scientific principles that underpin biotechnology.
- A sound and practical knowledge of laboratory techniques and practices through which biotechnological discoveries are made.
- An appreciation of the social context in which scientific work is undertaken and which scientific knowledge is applied.
- An appreciation of the legislation that regulates scientific activities, and particularly those that relate to biotechnology.
- Advanced communication and interpersonal skills, both verbal and written.
Semester 6
HES3505 Industry-based Learning

Semester 7
HES4621 Advanced Biochemistry
HES4641 Practical Biochemistry
HES4520 Advanced Chemistry 1
Elective - Level 3

Semester 8
HES4626 Biotechnology
HES4646 Biotechnology Research Project
HES4525 Advanced Chemistry 2
Elective - Level 3

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.
VCE prerequisites: Units 3 and 4 - a study score of at least 25 in English (any), and in one of Biology or Chemistry, and in one of Mathematical Methods or Specialist Mathematics.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).
Applicants who wish to study part-time should contact the School of Engineering and Science to obtain an application form.

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

Z062Y Bachelor of Science (Psychology/Psychophysiology)
VTAC code: 34141 (HECS), 34143 (Int. Fee)
2001 Clearly-in ENTER: 86.25
VTVT VTVT VTVT VTVT VTVT
AC code: 34141 (HECS), 34143 (Int. Fee)
VTVT VTVT VTVT VTVT VTVT

This course covers both psychology and associated physiological processes, and examines specialised techniques such as monitoring of biological signals related to behaviour.

Aims & Objectives
The course has the following objectives:
- To prepare students for professional practice in psychology and psychophysiology.
- To give students an appropriate introduction to the role of the professional scientist in the community and to explore the social effects of scientific decisions.

These studies are aimed at developing moral, social, aesthetic, environmental and ethical concepts essential to a satisfying personal philosophy and a sound professional attitude:
- To provide students with the research and analytical skills associated with high quality physiological and psychological research.
- To prepare students for the changing workplace and the changing societal context of science by developing their life-long learning skills and flexibility in thought.
- To develop students’ communication skills so that they can present their ideas clearly by verbal, written and graphic means.

Campus
Hawthorn

Career opportunities
Graduates of this course have been employed in neurophysiological areas of hospitals and in research areas of universities and research institutes within the private and public sectors, community health services, and clinics, and institutions, sports psychology, ergonomics, psychophysiology, and clinical psychology.

Professional recognition
The Swinburne psychology major within the Bachelor of Science is accredited by Australian Psychological Society (APS).

Course duration
Three years full-time. There is no structured part-time course. However, students have the option of enrolling in less than the normal load, provided they meet minimum requirements of progress.

Structure
This course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed to be equivalent to one hour of student work per week over a semester, whether in contact with staff or in private study. Four subjects, each worth 12.5 credit points, will generally be taken each semester. The typical student’s average weekly workload during semester is therefore expected to be fifty hours. Total student contact hours, including lectures, classes, tutorials, flexible learning and laboratory and field sessions will vary in different semesters. Students who perform well may progress to an honours program.

Course subjects
Semester 1
HET102 Introductory Physiology
HAY100 Psychology 100
HMA103 Statistics & Research Methods
Elective* (Choose one):
HIT2080 Introduction to Programming
HES1500 Introduction to Chemistry
HET124 Energy & Motion
HMS111 Engineering Mathematics 1
HAH100 Introduction to Philosophy
HAS100 Sociology 1A
HAH103 Critical Thinking

Semester 2
HET133 Human Physiology
HET148 Technology & Data Acquisition
HAY101 Psychology 101
Elective* (Choose one):
HES1505 Chemistry 2
HMS112 Engineering Mathematics 2
HAS101 Sociology 1B
HAH100 Introduction to Philosophy
HAH103 Critical Thinking

Semester 3
HET227 Neurophysiology
HET219 Neurological Monitoring
HMA278 Design & Measurement 2
HAY206 Developmental Psychology

Semester 4
HET226 Sensory Systems
HET231 Perception & Motor Systems
HAY205 Cognition & Human Performance
HMA279 Design & Measurement 3

Semester 5
HET527 Sleep & Attention
HET528 Higher Cortical Function
HAY308 Psychology of Personality
HAY309 Psychological Measurement
Three-week study tours to the European Community are available as elective

Media

Publishing

Administration

Community development

Policy analysis and development

and an awareness of the role of ethics in private and public life. They nurture
evaluate and develop policies. They develop a strong sense of personal integrity
planning essays and research projects, attention to detail and time management.
activities also develop skills such as independent thinking, conceptual analysis, theory development, learning to write clearly and effectively,
and which are also highly valued by employers. Many of these skills also develop
students' capacity to relate to other people. For example: public speaking, group
study areas which improve their ability to explain human behaviour and to devise

Part-time study is also available to Australian citizens and holders of Australian residency.

Students are informed of assessment requirements for each subject
attend classes during the day, evening or a combination of both, subject to
University of Technology | Higher Education Handbook 2002

Bachelor of Social Science

VTAC code: 34221 (HECS), 34223 (Int. Fee)

2001 Clearly-in ENTER: 83.45

Part-time study is also available to Australian citizens and holders of Australian residency.

Graduates of a Social Science degree acquire knowledge and skills in a variety of study areas which improve their ability to explain human behaviour and to devise policies to ameliorate social conditions. They also acquire a range of 'generic skills' - skills which are a key part of the lifelong process of personal development and which are also highly valued by employers. Many of these skills also develop students' capacity to relate to other people. For example: public speaking, group discussions, interviewing, planning group projects and organising seminars. These activities and skills help prepare students for management and leadership positions. Course activities also develop skills such as independent thinking, conceptual analysis, theory development, learning to write clearly and effectively, planning essays and research projects, attention to detail and time management.

Social Science graduates learn to use ideas and information stored in libraries and electronic databases, acquire computer skills, carry out research projects and evaluate and develop policies. They develop a strong sense of personal integrity and an awareness of the role of ethics in private and public life. They nurture personal stores of energy, motivation and adaptability.

The body of substantive knowledge taught in the Bachelor of Social Science, together with these generic skills, enhances students' abilities to solve problems and make decisions, irrespective of the specific field of study they undertake. While many degree courses provide some chance to develop generic skills, a Social Science degree usually provides particular opportunities for students to further their development in these areas, especially in research and policy development. Consequently Swinburne Social Science graduates are well equipped to find work in a number of areas, including:

- Policy analysis and development
- Research
- Community development
- Administration
- Public relations
- Publishing
- Media

Three-week study tours to the European Community are available as elective subjects within the Swinburne BScSci. These tours provide an excellent opportunity for students to gain a basic understanding of the economy, culture, history and business environment of particular countries. Students not only visit companies, government departments, small businesses, factories and other, they also visit cultural and tourist attractions. A number of international exchange programs are in place with institutions in countries such as Canada, Hungary, Italy, Japan, Korea, Thailand and the United States of America, where students may study overseas for one or two semesters and gain full credit towards the Bachelor of Social Science program.

Some Sociology majors will have the opportunity (at Stage 3) to gain work experience through the Sociology student internship program.

Career opportunities

Listed below are some examples of career opportunities available for graduates based on their chosen major area of study.

- Politics: Media, publishing, personnel, government, commerce and industry.
- Psychology: Research, human resources, personnel, advertising. Further study is required to become a psychologist.
- Sociology: Social research, administration, community development, public housing, human resources, marketing.
- Asian Studies: Media, government, commerce and industry.
- Australian Studies: Private and public sectors, human services.
- Cultural Studies: Diplomatic corps, teaching.
- Electronic Society: Media, Research, Public Relations and Commerce.
- European Studies: Particularly relevant for students wishing to pursue a career in the international business environment.
- Italian: Ideal for working with Italians in Australia or overseas, and especially useful in fields such as marketing, accountancy, or psychology.
- Japanese: Events organising, interpreting, tourism (within Australia and Japan).
- Literature: Journalism, advertising copy writing, hypertext writing.
- Media Studies: Journalism, radio production, public relations, communications research.
- Philosophy and Cultural Inquiry: Broad or specialist careers destinations such as social policy areas, private and public sector management, medical and bio-ethics, computer programming, legal studies.

Social Science graduates can also gain qualifications for a range of other occupations. For example they may become librarians, teachers, personnel officers, social workers, sociologists or psychologists.

Professional recognition

The three-year undergraduate sequence in Psychology at Swinburne is accredited by the Australian Psychological Society.

Course duration

Three years full-time or equivalent part-time.

Structure

The Bachelor of Social Science is a 24-subject degree. All subjects in the degree (Stages 1, 2 and 3) carry 12.5 credit points. (The complete degree carries 300 credit points.) A full-time student normally takes eight subjects (100 credit points) per year. In each year, four subjects per semester normally constitute a full-time load of 50 credit points, while two subjects per semester normally constitute a part-time load of 25 credit points.

In order to enhance their generic skills profile, employability and capacity to pursue further study, all Swinburne Bachelor of Social Science students must take a core Stage 1 subject in Research Methods and Statistics. Students undertaking a psychology major must complete the subject HMA103 Statistics and Research Methods A. Students NOT undertaking a Psychology major must complete the subject HMA104 Statistics and Research Methods B.

Evening classes are offered in many subjects. Students can choose whether they attend classes during the day, evening or a combination of both, subject to availability. In most subjects, assessment is by a combination of assignments and examinations. Students are informed of assessment requirements for each subject during the first week of classes.
Politics at Swinburne is focused on the areas of greatest relevance to students in their working lives. It deals with the institutions and processes of government in Australia, the forces that have shaped them, and the consequences for ordinary Australians. Recognising that Australia is increasingly being shaped by international forces, it introduces students to global politics and to the politics of the Asian region, with which Australia’s future is closely linked, and where increasing numbers of Australians are living and working.

**Career opportunities**
Politics graduates find employment in a wide range of professions where knowledge of public affairs and skills in analysis, evaluation, and communication, are valued. Many work in journalism, social work, research, administration, and business in Australia and other countries in the Asia Pacific region.

**Structure**
A Politics major must include one Stage 1 subject, and at least seven post Stage 1 subjects from the list below. At least two of these post Stage 1 subjects must be taken as Stage 2 subjects and at least three as Stage 3 subjects. The remaining two post Stage 1 subjects may be taken as either Stage 2 or Stage 3 subjects.

Most Politics subjects are double-coded so that they can be completed as either Stage 2 or Stage 3 subjects. Where subjects are listed with two codes, the first one indicates the Stage at which it is normally taken.

**Course subjects**
The Politics major consists of the following:

**Stage 1**
- HAP100 Australian Politics
- HAP117 International Politics
- HAA119 Post-War Italy

**Stage 2**
- HB128 European Union
- HASP202 Social Theory

**Stage 3**
- HASP302 Methodology of Social Research
- HASP303 Research Report
- HASP304 Sociology and Social Policy
- HASP306 Quantitative Research Methods
- HASP307 Qualitative Research Methods

The following subjects can be taken at stage 2 or stage 3 but not both:
- HAP221/HASP221 Modern Australia
- HAP224/HASP224 The Emergence of Modern Asia
- HAP228/HASP228 Globalisation: Transformations in World Politics, Economy and Culture
- HAPM226/HAPM226 Making News and Making Policy: The Media and Politics
- HASP300/HASP200 Public Policy in Australia
- HASP301/HASP201 Work in Australia

Further information
Contact the School of Social and Behavioural Sciences on +61 3 9214 5209

**Psychology**
The undergraduate Psychology program provides students with a broad introduction to psychology in all three stages. In Stage 3 some attention is given to vocational skills and knowledge relevant to applied fields.

The three-year undergraduate sequence in Psychology at Swinburne is accredited by the Australian Psychological Society. Many people take up a career related to psychology after completion of a three-year program, but some choose to undertake further study in order to work specifically as psychologists. To be regarded as a professionally trained psychologist in Australia, it is necessary to be eligible for registration as a psychologist with a State Psychologist Registration Board. Membership of the Australian Psychological Society (APS) is also highly desirable. The minimum requirement for registration as a probationary psychologist in the state of Victoria is completion of four years progressive study in psychology, including specified elements. The minimum academic requirement for associate membership of the
Sociology at Swinburne studies Australian society in an international perspective, comparing it with other societies. The program also takes an applied approach by emphasising how sociology can be used to solve practical problems faced by individuals, organisations and governments.

Career opportunities

Sociology graduates typically find careers in the areas of social research, administration, planning, community development, human resources, policy development, and marketing. These positions all require the conceptual and skill-based training that comes from undertaking a degree in sociology.

Structure

A Sociology major must include both Stage 1 subjects, and at least seven post Stage 1 subjects from the list below. At least two of these post Stage 1 subjects must be taken at Stage 2 and at least three at Stage 3. The remaining two post Stage 1 subjects may be taken at either Stage 2 or 3.

In Stage 1, we introduce the subject matter of Sociology, and explore aspects of Australian society, economy and government in the international context. Students majoring in Sociology must include either HASP200 Quantitative Research Methods or HASP307 Qualitative Research Methods among their subjects. They are advised to include HASP202 Models of Social Analysis in their major studies. Students not majoring in Sociology may apply to do any first, second or third year sociology subject.

Students who do well in their undergraduate work may apply to be admitted to the Bachelor of Arts (Honours) course in Social Science.
for management and leadership positions. Course activities also develop skills such as independent thinking, conceptual analysis, theory development, writing clearly and effectively, planning essays and research projects, attention to detail and time management.

Social Science graduates learn to use ideas and information stored in libraries and electronic databases, acquire computer skills, carry out research projects and evaluate and develop policies. They develop a strong sense of personal integrity and an awareness of the role of ethics in private and public life. They nurture personal stores of energy, motivation and adaptability.

All of these generic skills enhance students’ abilities to solve problems and to make decisions, irrespective of their specific field of study. While many degree courses provide some chance to develop generic skills, a Social Science degree usually provides particular opportunities for students to further their development in these areas, especially in research and policy development. Consequently Swinburne Social Science graduates are well equipped to find work in areas where employers put a high premium on generic skills. These areas include:

- Policy analysis and development.
- Research.
- Community development.
- Administration.
- Public relations.
- Publishing.
- Media.

**Career opportunities**

Graduates in psychology are highly sought after by a wide range of organisations to work in human services as research officers, human resource managers, marketing and advertising personnel. After completing a Bachelor degree with a major in psychology, graduates can undertake a fourth year in psychology and further study in professional psychology such as Counselling, Health, Clinical, Organisational, and Sports Psychology.

**Professional recognition**

The three-year undergraduate sequence in Psychology at Swinburne is accredited by the Australian Psychological Society (APS).

**Course duration**

Three years full-time or equivalent part-time.

**Structure**

The Bachelor of Social Science (Psychology) is a 24-subject degree. All subjects in the degree (Stages 1, 2 and 3) carry 12.5 credit points. The complete degree carries 300 credit points. A full-time student normally takes eight subjects (100 credit points) per year. In each year, four subjects per semester normally constitute a full-time load of 50 credit points, while two subjects per semester normally constitute a part-time load of 25 credit points.

In order to enhance their generic skills profile, employability and capacity to pursue further study, all Swinburne Bachelor of Social Science (Psychology) students must take a core Stage 1 subject in Research Methods and Statistics, called HMA103 Statistics and Research Methods.

Evening classes are offered in many subjects. Students can choose whether they attend classes during the day, evening or a combination of both (subject to availability of places). In most subjects, assessment is by a combination of assignments and examinations. Students are informed of assessment requirements for each subject during the first week of classes.

**Majors/Specialisation**

A major is a three stage sequence of study in the one discipline or specialisation. In the Bachelor of Social Science (Psychology), a major normally consists of one or two Stage 1 subjects followed by seven post-Stage 1 subjects. At least two post-Stage 1 subjects must be taken at Stage 2 and at least three post-Stage 1 subjects must be taken at Stage 3. The remaining post-Stage 1 subjects may be taken at Stage 2 or 3. Please consult individual entries for each major for the exact requirements.
To qualify for the award of the Bachelor of Social Science (Psychology) degree, students must complete a psychology major and one other major chosen from the available Bachelor of Social Science, Bachelor of Arts or Bachelor of Business majors or from any other approved major from elsewhere in the University.

**Bachelor of Social Science majors:**
- Politics
- Psychology
- Sociology

**Bachelor of Arts majors:**
- Asian Studies
- Australian Studies
- Cultural Studies
- Electronic Society
- European Studies
- Italian Studies
- Japanese
- Literature
- Media Studies
- Philosophy & Cultural Inquiry

**Course subjects**
The Psychology major consists of the following subjects:

### Stage 1
- HAY100 Psychology 100
- HAY101 Psychology 101
- HMA103 Statistics and Research Methods

### Stage 2
- HAY206 Developmental Psychology
- HAY205 Cognition and Human Performance
- HMA278 Design and Measurement 2
- HMA279 Design and Measurement 3

### Stage 3
- HAY307 Social Psychology
- HAY308 Psychology of Personality
- HAY309 Psychological Measurement
- HAY321 Abnormal Psychology

**Entry requirements**
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any).

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed. Because of restrictions on numbers of places, not all eligible applicants can be offered a place.

Note: There are a limited number of places available in the Bachelor of Social Science (Psychology) and the number of applications is generally higher (as are the ENTER scores required for entry) than for the general degree programs. Applicants wishing to study Psychology should therefore consider listing as preferences both specialist and general degree programs offering Psychology as a major at Swinburne. These include the Bachelor of Social Science, the Bachelor of Arts, the Bachelor of Applied Science (Psychology/Biochemistry), and the Bachelor of Arts (Psychology/Psychophysiology).

**Application procedure**
Full-time applications must be made through the Victorian Tertiary Admissions Centre (VTAC). Part-time applications must be made directly to the School of Social and Behavioural Sciences on the approved form.

**Further information**
Contact the School of Social and Behavioural Sciences
Telephone: +61 3 9214 5209

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**DOUBLE DEGREES**

### SO40 Bachelor of Science (Biomedical Sciences) / Bachelor of Engineering (Electronics and Computer Systems)
VTAC code: 34681 (HECS), 34683 (Int. Fee)
2001 Clearly-in ENTER: 88.10

This double degree maximises a student’s career choices through a combination of the study of the physical aspects of human physiology and the related technologies for clinical care and biomedical monitoring, together with studies in electrical engineering.

**Aims & Objectives**
The course has the following objectives:
- To produce graduate engineering scientists with multi-disciplinary skills in engineering and science that integrates the fields of electrical and electronic engineering with that of medical biophysics and medical technology.
- To integrate the formal five-year course of study with an optional one year period of industry based learning (www.swin.edu.au/corporate/ili/).
- To deliver a professionally recognised course of study which will enable graduates to join the Institution of Engineers, Australia as graduate members.

**Career opportunities**
Graduates may work in biomedical areas of either the public sector, for example in hospitals, or in the health industry. Alternatively, graduates may choose to undertake work as an electrical engineer.

**Professional recognition**
Graduates are eligible for membership of The Institution of Engineers, Australia. Graduates are eligible to apply for graduate membership of the Australasian College of Physical Scientists and Engineers in Medicine Engineering.

**Course duration**
Five years full-time. An optional and additional year of Industry-based Learning (IBL) may also be available.

**Structure**
This course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed to be equivalent to one hour of student work per week over a semester, whether in contact with staff or in private study. Four subjects, each worth 12.5 credit points, will generally be taken each semester. The typical student’s average weekly workload during semester is therefore expected to be fifty hours. Total student contact hours, including lectures, classes, tutorials, flexible learning and laboratory and field sessions will vary in different semesters.

**Course subjects**

#### Semester 1
- HMS111 Engineering Mathematics 1
- HET124 Energy & Motion
- HET102 Introductory Physiology
- HET100 Professional Engineering

#### Semester 2
- HMS112 Engineering Mathematics 2
- HES1125 Mechanics of Structures
- HET182 Electronic Systems
- HET133 Advanced Physiology

#### Semester 3
- HMS213 Engineering Mathematics 3B
- HET210 Electronics
ESBA055 Bachelor of Science (Biotechnology) / Bachelor of Arts (Media & Communications)
VTAC code: 34361 (HECS), 34363 (Int. Fee)
2001 Clearly-in ENTER: Individual Offer

This double degree course prepares graduates for careers in the media and communications industries, where their understanding of the sciences associated with biotechnology will allow them to deal critically with technological issues and enhance community understanding.

Aims & Objectives
The course aims to develop:
- Mastery of the basic scientific principles that underpin biotechnology.
- A sound and practical knowledge laboratory techniques and practices through which biotechnological discoveries are made.
- An appreciation of the social context in which scientific work is undertaken and which scientific knowledge is applied.
- An appreciation of the legislation that regulates scientific activities, and particularly those that relate to biotechnology.
- Advanced communication and interpersonal skills, both verbal and written.
- An appreciation of the moral, ethical and social elements essential to a satisfying personal philosophy and a sound professional attitude.
- Skills in self education, evaluation of new information and encouragement in flexibility of thought, to prepare students for a world of accelerating technological change.

In addition this course aims to develop:
- An understanding of communications and media.
- An advanced understanding of the social context of technological developments.
- An ability to define and analyse social issues related to science and technology.
- Excellent skills for professional communication, scientific communication and lay communication.

Campus
Hawthorn

Career opportunities
This double degree course prepares graduates for careers in the media and communications industries, where their expert understanding of the sciences associated with biotechnology will allow them to deal critically with technological issues and enhance community understanding.

Professional recognition
Graduates may apply for membership of the following professional societies:
- Australian Biotechnology Association
- The Australian Society for Biochemistry and Molecular Biology
- Australian Society for Microbiology

Course duration
Four years full-time plus an optional and additional year of Industry-based Learning (IBL).

Structure
The program involves four equally-weighted subjects per semester over four years, plus one optional year of full-time, paid, Industry-based Learning (normally undertaken after the fifth semester). Practical laboratory work is undertaken throughout the course. A research project is undertaken in final year.

The normal study mode is full-time with the courses being completed in the periods indicated. However, subject to student demand and the availability of staff, the academic component of the course may be accelerated in calendar time by undertaking Summer Semester studies.

To qualify for the award of BSc a student must complete 200 credit points of science subjects, ie. subjects that would normally be regarded as contributing to
the science component of a science degree. Therefore a minimum of four elective subjects (50 credit points) must be science subjects in order to fill this minimum requirement.

To qualify for the award of BA a student must complete 200 credit points of arts subjects that are selected to fulfil the requirements for the major study in Media and Communications. The School of Social and Behavioural Sciences will specify requirements for the award of the Bachelor of Arts. This may include the specification of other major or minor studies in addition to the major in Media and Communications.

**Course subjects**

**Stage 1**

**Semester 1**
- HES1610 Human Biology
- HES1500 Chemistry 1
- HMS101 Foundation Maths
- HALM104 Media Literature Film: Texts and Contexts

**Semester 2**
- HES1818 Concepts of Biotechnology
- HES1525 Chemistry 2
- XXXXXX Science Elective (level 1 or 2)
- HAM105 The Media in Australia

**Stage 2**

**Semester 1**
- HES2621 Introduction to Biochemistry
- HES2631 The Microbial World
- XXXXXX Science Elective (level 1 or 2)
- XXXXXX Arts Media/Comm Subject

**Semester 2**
- HES2626 Biochemistry of Genes and Proteins
- HES2636 Microbes in the Environment
- XXXXXX Science Elective (level 1 or 2)
- XXXXXX Arts Media/Comm Subject

**Stage 3**

**Semester 1**
- HES4621 Advanced Biochemistry
- HES4641 Practical Biochemistry
- XXXXXX Arts Media/Comm Subject
- XXXXXX Arts Elective

**Semester 2**
- HES4626 Biotechnology
- HES4646 Biotechnology Research Project
- XXXXXX Arts Media/Comm Subject
- XXXXXX Arts Elective

**Stage 4**

**Semester 1**
- XXXXXX Arts Media/Comm Subject
- XXXXXX Arts Media/Comm Subject
- XXXXXX Arts Elective
- XXXXXX Arts Elective

**Semester 2**
- XXXXXX Arts Media/Comm Subject
- XXXXXX Arts Media/Comm Subject
- XXXXXX Arts Elective
- XXXXXX Arts Elective

**Entry requirements**

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 and 4 - a study score of at least 25 in English (any) and in one of Biology or Chemistry and in one of Mathematical Methods or Specialist Mathematics.

**Application procedure**

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Applicants who wish to study part-time should contact the School of Engineering and Science to obtain an application form.

**Further information**

Contact the School of Engineering & Science

Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

**ESBB055 Bachelor of Science (Biotechnology) / Bachelor of Business**

VTAC code: 34381 (HECS), 34383 (Int. Fee)

2001 Clearly-in ENTER: Individual offer

This double degree course enables students to undertake the Bachelor of Science (Biotechnology) course combined with Swinburne’s accredited three year Bachelor of Business degree. It aims to provide a professional education in biotechnology and business that will enable graduates to use scientific research and innovative skills to create new business enterprise or to contribute to existing businesses.

**Aims & Objectives**

The course is designed to develop:

- Mastery of the basic scientific principles that underpin biotechnology.
- A sound and practical knowledge laboratory techniques and practices through which biotechnological discoveries are made.
- An appreciation of the social context in which scientific work is undertaken and which scientific knowledge is applied.
- An appreciation of the legislation that regulates scientific activities, and particularly those that relate to biotechnology.
- Advanced communication and interpersonal skills, both verbal and written.
- An appreciation of the moral, ethical and social elements essential to a satisfying personal philosophy and a sound professional attitude.
- Skills in self education, evaluation of new information and encouragement in flexibility of thought, to prepare students for a world of accelerating technological change.

In addition, this course aims to develop:

- An understanding of the local and global business environment.
- General business knowledge and skills, especially in the area of management.
- An advanced understanding of the roles of research and development in the development of business enterprises.
- An understanding of entrepreneurship and the management of entrepreneurship in business.
- An understanding of the processes of innovation.
- Excellent skills for professional communication, especially within the business environment.

**Campus**

Hawthorn

**Career opportunities**

This double degree course provides professional education in biotechnology and business that enables graduates to use scientific research and innovative skills to create new business enterprises or to contribute to existing businesses.

**Professional recognition**

Graduates may apply for membership of the following professional societies:

- Australian Biotechnology Association
The Australian Society for Biochemistry and Molecular Biology
• Australian Society for Microbiology

This course is also expected to meet the accreditation requirements of the Royal Australian Chemical Institute, especially if chemistry subjects are selected in the elective streams.

Course duration
Four years full-time plus an optional and additional year of Industry-based Learning (IBL).

Structure
The program involves four equally-weighted subjects per semester over four years, plus one optional year of full-time, paid, Industry-based Learning (normally undertaken after the fifth semester). Practical laboratory work is undertaken throughout the course. A research project is undertaken in final year.

To qualify for the award of BSc a student must complete 200 credit points of science subjects, i.e. subjects that would normally be regarded as contributing to the science component of a science degree. Therefore a minimum of four elective subjects (50 credit points) must be science subjects in order to fill this minimum requirement. To qualify for the award of BBus a student must complete 200 credit points of business subjects that are selected to fulfill the requirements for the business degree.

Course subjects

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<tr>
<th>Stage 1</th>
<th>Semester 1</th>
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<tr>
<td>HES1610</td>
<td>Human Biology</td>
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<td>Chemistry 1</td>
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<td>Introduction to Biochemistry</td>
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<td>HES2631</td>
<td>The Microbial World</td>
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<td>XXXXXX</td>
<td>Science Elective (level 1 or 2)</td>
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Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 and 4 - a study score of at least 25 in English (any) and in one of Biology or Chemistry and in one of Mathematical Methods or Specialist Mathematics.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Applicants who wish to study part-time should contact the School of Engineering and Science to obtain an application form.

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

HONOURS YEAR

Z073 Bachelor of Applied Science (Honours) (Applied Chemistry)

This program provides an opportunity for selected students, who have achieved a high standard during the applied chemistry course, to graduate with a degree with honours.

Aims & Objectives
The objective of this course is to allow high achieving students to gain a degree with honours in applied chemistry. Students undertaking this course will also be prepared for higher degree studies.

Campus
Hawthorn

Course duration
Four or five years full-time.

Structure
Two streams are available. In most circumstances, the Honours course is completed in one year of study after completion of a Bachelor of Applied Science, or Bachelor of Science in Applied Chemistry, or an equivalent degree. In this year, students will undertake honours lectures at an advanced level and a research project.

An accelerated program, that enables the degree to be obtained in four years in conjunction with their undergraduate degree studies, is also available. In this stream, students will commence an industry-oriented honours research project whilst undertaking their industry-based learning (IBL) year, and complete honours lectures and a research project in the final year of the course.

Course subjects

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<td>HESS540</td>
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Semester 2
HES5440 Honours lectures
HES5580 Honours project

Accelerated program Stage 1 and 2
As per Bachelor of Science (Chemistry) course

Stage 3
Semester 1
HES3500 Industry-based Learning
HES4500 Chemistry 5
Semester 2
HES3515 Industry-based Learning
HES4505 Chemistry 6

Stage 4
Semester 1
HES4530 Forensic & Analytical Chemistry
HES4510 Practical Chemistry
HES5540 Honours Lectures
HES5580 Honours Project
Semester 2
HES4535 Advances & Application in Chemistry
HES5540 Honours Lectures
HES5580 Honours Project

Entry requirements
For students to gain entry into the honours program, a weighted average mark of 65% or greater should have been achieved in the year of study prior to entry. In addition, a suitable honours research project must be identified. To obtain entry into the accelerated program, students must obtain a weighted average mark of 65% or greater in stage 2 of their undergraduate course, in addition to the identification of a suitable honours research project.

Application procedure
Application should be made to the Honours in Chemistry and Biochemistry Coordinator towards the conclusion of the final year of their course (or at the conclusion of second year for the accelerated program).

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

Z072 Bachelor of Applied Science (Honours) (Biochemistry)

This program provides an opportunity for selected students, who have achieved a high standard during a biochemistry or biotechnology course, to continue their undergraduate studies to an honours level.

Aims & Objectives
The objective of this course is to allow high achieving students to gain a degree with honours in biochemistry. Students undertaking this course will also be prepared for higher degree studies.

Campus
Hawthorn

Course duration
One year full-time

Structure
Two streams are available. In most circumstances, the Honours course is completed in one year of study after completion of a Bachelor of Applied Science or Bachelor of Science in biochemistry, biotechnology, or an equivalent degree. In this year, students will undertake honours lectures at an advanced level and a research project.

An accelerated program, that enables the degree to be obtained in four years in conjection with their undergraduate degree studies, is also available. In this stream, students will commence an industry-oriented honours research project whilst undertaking their industry-based learning (IBL) year, and complete honours lectures and a research project in the final year of the course.

Course subjects
Semester 1
HES5640 Honours Lectures
HES5590 Honours Project
Semester 2
HES5640 Honours Lectures
HES5590 Honours Project

Accelerated program Stage 1 and 2
As per Bachelor of Applied Science (Biochemistry) or (Biotechnology) course.

Stage 3
Semester 1
HES3500 Industry-based Learning
HES4500 Chemistry 5
Semester 2
HES3515 Industry Oriented Honours Project
HES4505 Chemistry 6

Stage 4
Semester 1
HES5640 Honours Lectures
HES5580 Honours Project
HES4620 Biochemistry 3
HES4640 Practical Biochemistry 3
Semester 2
HES5640 Honours Lectures
HES5580 Honours Project
HES4625 Biochemistry 4

Entry requirements
For students to gain entry into the honours program, a weighted average mark of 65% or greater should have been achieved in the year of study prior to entry. In addition, a suitable honours research project must be identified. To obtain entry into the accelerated program, students must obtain a weighted average mark of 65% or greater in stage 2 of their undergraduate course, in addition to the identification of a suitable honours research project.

Application procedure
Application should be made to the Honours in Chemistry and Biochemistry Coordinator towards the conclusion of the final year of their course (or at the conclusion of second year for the accelerated program).

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

Z069 Bachelor of Health Science (Honours) (Public and Environmental Health)

This program provides an opportunity for selected students, who have achieved a high standard during the environmental health course, to graduate with a degree with honours.

Aims & Objectives
The honours year aims to:
• Provide high achieving students with an opportunity to deepen their intellectual understanding of public and environmental health.
• Enhance the research literacy of the environmental health workforce.
• Provide environmental and public health research assistance to government and private sectors.
• Provide a foundation for further studies to PhD level if desired.

**Campus**
Hawthorn

**Career opportunities**
Enhanced employment opportunities in all areas of environmental health.

**Professional recognition**
Graduates will be eligible to apply for membership of the Australian Institute of Environmental Health and the Public Health Association of Australia.

**Course duration**
One year full-time or part-time equivalent.

**Structure**
The course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed equivalent to one hour of student work per week (comprising classwork and private study/coursework). The typical students average weekly workload during semesters is therefore deemed to be 50 hours.

**Course subjects**

**Semester 1**
- HASP 306 Quantitative Research Methods
- HASP 307 Qualitative Research Methods
- HESS5XX Honours Project

**Semester 2**
- HESS5XX Honours Seminar
- HESS5XX Honours Project

**Entry requirements**
Acceptance into the Honours Program will require completion of a degree with an environmental or public health major from a recognised tertiary institution. A credit average or above in Stage 3 subjects will be required. International students are also eligible to apply.

**Application procedure**
Contact the School of Engineering & Science.

**Further information**
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264

**Z019 Bachelor of Science (Honours) (Biophotonics)**

This course allows students, who possess a bachelor degree, to specialise in the exciting new fields of optical technologies. The general field of optical technology is at a state of enormous growth around the world, especially in Australia. A large number of industry areas are developing and/or implementing laser based technologies. Some of these include telecommunications, materials processing, materials development, medical diagnostics, data storage, precision optical sensing, and many others.

The course combines coursework with a two-semester research project. The coursework concentrates on taking the student to the highest level of theoretical understanding required for original research involving laser technologies. On completion of the research project, the student is expected to have made a substantial and original contribution to their chosen field, and submitted a clear and concise thesis describing their work. As part of the formal research supervision, students are expected to perform as active members of a research team.

**Aims & Objectives**

This course aims to:
• Provide students with the appropriate experimental, analytical, and theoretical skills required for high quality research involving optical technologies.
• Provide students with the resources, both physical and intellectual, to actively participate in frontier research projects.
• Develop student’s communication skills, enabling them to present their ideas clearly by verbal and written means.
• Prepare students for a career in research.

**Campus**
Hawthorn

**Career opportunities**
Graduates will have excellent prospects for employment in research operations of high-technology corporations, as well as universities and other institutions.

**Course duration**
One year full-time. In exceptional circumstances the program will be available to students, in full-time employment, on a part-time basis. In such a case the duration will be the equivalent to two semesters of full-time study ie. four semesters part-time.

**Structure**
The honours program comprises two components:
• Coursework (50 credit points)
• Research project (50 credit points)

**Coursework**
Students must complete 50 credit points, with 25 credit points coming from ‘core’ subjects. The core subjects are defined separately for the two streams. The subjects will be offered in a flexible delivery mode (not necessarily conforming to the standard semesters of the undergraduate teaching year). All subjects have a value of 12.5 credit points unless otherwise indicated.

**Research Project**
Students must complete an all-year project as part of a research group. At the completion of the project the student must be able to demonstrate a professional understanding of the context of their research. Included in the research project component of this course will be compulsory completion of a structured Research Methods program.

**Course subjects**

**Core Subjects**
- HET511 Honours Research Project (50 credit points)
- HET512 Research Methods (0 credit points)
- HET503 Lasers
- HET505 Advanced Optical Imaging Theory

Choose two from:
- HET504 Quantum Mechanics A
- HET506 Modern Optics
- HET507 Atomic and Molecular Spectroscopy and Non-linear Optics
- HET508 Optical Waveguide Theory and Optical Fibre Sensors
- HET509 Advanced Optical Microscopy
- HET514 Quantum Mechanics B

Note: Student cannot undertake both HET504 and HET514.

**Entry requirements**
Entry to this course is available to academically prepared students. These students must have completed a three-year (pass) degree (or four years for BEng) from Swinburne University of Technology or another recognised university. The pass degree should show strong academic achievement, corresponding to a Credit average or higher. It should also include at least two years of mathematics, and preferably some study of electromagnetism.
Application procedure
Contact the School of Biophysical Sciences and Electrical Engineering on +61 3 9214 8859 to obtain an application form.

Further information
Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: www.swin.edu.au/bioscieleceng/

Z066Y Bachelor of Science (Honours) (Medical Biophysics)

This program provides an opportunity for selected students who have achieved a high standard in the major area of study to continue their undergraduate studies to an honours level.

Campus
Hawthorn

Course duration
One year full-time.

Structure
Two streams are available in this Honours degree (appropriate IBL and insufficient IBL). Students who have completed appropriate project work within their IBL year can complete the Honours degree with 50 credit points within a single academic semester. This must include a Research Thesis of 10,000 words, in addition to the necessary coursework subject(s).

Other students (with or without IBL) are required to complete an additional academic semester. These students must complete 100 credit points of study over the two academic semesters. This involves a Research Thesis of 10,000 words submitted in the second semester and a progress report on the research being conducted during first semester, in addition to the necessary coursework subject(s).

For both streams, the research must be carried out under the supervision of a suitably qualified member of Swinburne academic staff or relevant industry. The results for the coursework and thesis are combined to provide the level of Honours mark for the course as a whole (e.g. H1, H2A, H2B, H3).

Course subjects

Insufficient Industry-based Learning (IBL)

Semester 1
HET613 Research Methods
HET822 Research Thesis

Semester 2
HET922 Research Thesis
OR

Appropriate Industry-based Learning (IBL)

Semester 1
HET613 Research Methods
HET822 Research Thesis

Entry requirements
Entry to this course is available to academically prepared students. These students must have completed all the requirements of a three-year undergraduate (pass) degree from Swinburne University of Technology or another recognised University. This pass degree should have contained a significant content of subjects in Medical Biophysics and Instrumentation. Students should have also demonstrated a high level of academic ability in this degree.

Application procedure
Contact the School of Biophysical Sciences and Electrical Engineering on +61 3 9214 8859 to obtain an application form.

Further information
Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: biomedical.bsee.swin.edu.au/

Z039 Bachelor of Science (Honours) (Optronics and Lasers)

This course allows students, who possess a bachelor degree, to specialise in the exciting new fields of optical technologies. The general field of optical technology is in a state of enormous growth around the world, especially in Australia. A large number of industry areas are developing and/or implementing laser based technologies. Some of these include telecommunications, materials processing, materials development, medical diagnostics, data storage, precision optical sensing, and many others.

The course combines coursework with a two-semester research project. The coursework concentrates on taking the student to the highest level of theoretical understanding required for original research involving laser technologies. On completion of the research project, the student is expected to have made a substantial and original contribution to their chosen field, and submitted a clear and concise thesis describing their work. As part of the formal research supervision, students are expected to perform as active members of a research team.

Aims & Objectives
This course aims to:

- Provide students with the appropriate experimental, analytical, and theoretical skills required for high quality research involving optical technologies.
- Provide students with the resources, both physical and intellectual, to actively participate in frontier research projects.
- Develop student’s communication skills, enabling them to present their ideas clearly by verbal and written means.
- Prepare students for a career in research.

Campus
Hawthorn

Career opportunities
The general field of optical technology is in a state of enormous growth around the world; especially in Australia. A large number of industry areas are developing and/or implementing laser based technologies. Some of these include telecommunications, materials processing, materials development, medical diagnostics, data storage, precision optical sensing, and many others. Graduates will have excellent prospects for employment in research operations of high-technology corporations, as well as universities and other institutions.

Course duration
Two semesters full-time. In exceptional circumstances the program will be available to students, in full-time employment, on a part-time basis. In such a case the duration will be the equivalent of two semesters of full-time study ie. four semesters part-time.

Structure
The honours program comprises two components:

- Coursework (50 credit points)
- Research project (50 credit points)

Coursework
Students must complete 50 credit points, with 25 credit points coming from ‘core’ subjects. The core subjects are defined separately for the two streams. The subjects will be offered in a flexible delivery mode (not necessarily conforming to the standard semesters of the undergraduate teaching year).

Research Project
Students must complete an all-year project as part of a research group. At the completion of the project the student must be able to demonstrate a professional understanding of the context of their research. Included in the research project
component of this course will be compulsory completion of a structured Research Methods program.

**Course subjects**

**Core Subjects**
Subjects are each worth 12.5 credit points unless otherwise indicated.
- HET511 Honours Research Project (50 credit points)
- HET512 Research Methods (0 credit points)
- HET503 Lasers

Plus one of either:
- HET504 Quantum Mechanics A, OR
- HET514 Quantum Mechanics B

Choose two from:
- HET505 Advanced Optical Imaging
- HET506 Modern Optics
- HET507 Atomic and Molecular Spectroscopy & Non-linear Optics
- HET508 Optical Waveguide Theory and Optical Fibre Sensors
- HET509 Advanced Optical Microscopy

**Entry requirements**
Entry to this course is available to academically prepared students. These students must have completed a three-year (pass) degree (or four years for BEng) from Swinburne University of Technology or another recognised university. The pass degree should show strong academic achievement, corresponding to a Credit average or higher. It should also include at least two years of mathematics, and preferably some study of electromagnetism.

**Application procedure**
Contact the School of Biophysical Sciences and Electrical Engineering on +61 3 9214 8859 to obtain a direct application form.

**Further information**
Contact the School of Biophysical Sciences and Electrical Engineering
- Telephone: +61 3 9214 8859
- Fax: +61 3 9819 0856
- Email: bsee@swin.edu.au
- Website: www.swin.edu.au/biosciieleceng/

**Z079Y Bachelor of Science (Honours) (Psychophysiology)**
This program provides an opportunity for selected students who have achieved a high standard in the major area of study to continue their undergraduate studies to an honours level. The honours course is a recognised point of entry into postgraduate research studies. Students concentrate on their chosen area, gaining a better understanding of the academic discipline which they study and research techniques specific to that discipline. The requirement to complete a substantial original piece of research for their thesis ensures that honours graduates develop their abilities to conceptualise problems, devise research strategies and execute individual research work under the supervision of a member of staff with expertise in the area.

**Aims & Objectives**
The course has the following objectives:
- To prepare students for professional practice in psychophysiology.
- To provide students with the research and analytical skills associated with high quality physiological and psychological research.
- To prepare students for the changing workplace and the changing societal context of science by developing their life-long learning skills and flexibility in thought.
- To develop students’ communication skills so that they can present their ideas clearly by verbal, written and graphic means.
- To provide students with experience in preparing scientific information for publication in peer-review scientific journals.
- To prepare students for a career in research.

**Campus**
Hawthorn

**Career opportunities**
The course’s strong emphasis on original research prepares students for areas of professional employment in which conceptual, organisational and practical skills are in demand. Graduates have been employed in neurophysiological areas of hospitals and in research areas of universities and research institutes within the private and public sectors.

**Professional recognition**
The psychology sequence of the course is accredited by the Australian Psychological Society (APS).

**Course duration**
One year full-time. Part-time study over two years may be granted to students for reasons of health, financial support and family commitments.

**Course subjects**

**Semester 1**
- HET511 Honours Research Project (50 credit points)
- HET770 Methodology and Literature Review (25 credit points)

**Semester 2**
Students elect to complete either:
- **Option A**
  - HET738 Neuropsychology Methods (12.5 credit points)
  - HET780 Research Manuscript (50 credit points), OR
- **Option B**
  - HET738 Neuropsychology Methods (12.5 credit points)
  - HET775 Minor Research Manuscript (37.5 credit points)
  - Elective (12.5 credit points)

**Entry requirements**
Entry to this course is available to academically prepared students. These students must have completed all the requirements of a three-year undergraduate (pass) degree from Swinburne University of Technology or another recognised University. This pass degree should have contained a significant content of subjects in psychology and psychophysiology and preference is given to those accredited by the Australian Psychological Society (APS). Preference is also given to students who wish to pursue a postgraduate career in research, particularly those who wish to enrol in Masters/PhD by research degree at Swinburne University at the completion of their Honours year. Students should have also demonstrated a high level of academic ability in this degree.

**Application procedure**
Contact the School of Biophysical Sciences and Electrical Engineering on +61 3 9214 8859 to obtain a direct application form.

**Further information**
Contact the School of Biophysical Sciences and Electrical Engineering
- Telephone: +61 3 9214 8859
- Fax: +61 3 9819 0856
- Email: bsee@swin.edu.au
- Website: www.swin.edu.au/biosciieleceng/

**MULTIMEDIA**

**J044 Bachelor of Multimedia (Business Marketing)**
VTAC code: 34081 (HECS), 34083 (Int. Fee)
2001 Clearly-in ENTER: 89.01

This program gives graduates the opportunity of participating in the exciting new field of electronic commerce. It would serve the needs of those wishing to pursue a multimedia-oriented career, particularly related to the production and design of multimedia applications in their respective chosen discipline, as expressed by the co-major. Graduates will provide their future employers with comprehensive skills
in the principles and practice of marketing as they are applied in a multimedia environment, with a solid grounding in the analysis and modelling of market conditions.

**Campus**

Hawthorn and Prahran.

**Career opportunities**

A broad spectrum of career opportunities in e-commerce and the multimedia industry.

**Course duration**

Three years full-time. An optional and additional year of Industry-based Learning (IBL) is also available.

**Structure**

This course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed to be equivalent to one hour of student work per week over a semester, whether in contact with staff or in private study. Four subjects, each worth 12.5 credit points, will generally be taken each semester. The typical student's average weekly workload during semester is therefore expected to be fifty hours. Total student contact hours, including lectures, classes, tutorials, flexible learning and laboratory and field sessions will vary in different semesters.

**Course subjects**

**Semester 1**

- HDM101 Design for Multimedia 1
- HET113 The Internet & WWW 1
- HBM110 The Marketing Concept
- Elective (Choose one):
  - HBC110 Accounting 1
  - HBE110 Microeconomics
  - HBH110 Organisations & Management
  - HBL111 Law in Global Business

**Semester 2**

- HDMD201 Design for Multimedia 2
- HET213 The Internet & WWW 2
- HBM220 Market Behaviour
- HMM111 Quantitative Analysis B

**Semester 3**

- HDMD301 Design for Multimedia 3
- HET218 Learning & Instructional Design
- HBM222 Marketing Planning
- HBM270 eBusiness

**Semester 4**

- HET208 3D Animation & Special Effects
- HET229 Computer Authoring
- HBM223 Transnational Marketing
- HBM271 eCustomer Relationship Marketing

**Semester 5**

- HET401 Multimedia Systems
- HET401 Multimedia Project 1
- HBM272 eMarketing
- Elective* (Choose one):
  - HBM330 Product Management
  - HBM331 Services Marketing & Management
  - HBM332 Communications Strategy

**Semester 6**

- HET409 Advanced Multimedia
- HET402 Multimedia Project 2
- HBM341 Business Strategy

* Electives will be offered subject to a sufficient number of enrolments.

**Entry requirements**

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - English (any) with a study score of at least 25.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

**Application procedure**

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

**Further information**

Contact the School of Biophysical Sciences and Electrical Engineering

Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: www.swin.edu.au/bioscieleceng

**J055 Bachelor of Multimedia (Media Studies)**

**VTAC code:** 34081 (HECS), 34083 (Int. Fee)

2001 Clearly-in ENTER: 88.50

This course would serve the needs of those wishing to pursue a multimedia-oriented career, particularly related to the production and design of multimedia applications in their respective chosen discipline, as expressed by the co-major.

The combination with multimedia studies will focus on the emerging possibilities of the ‘new media’. The course will equip graduates with an understanding of how the media works and to recognise the place it occupies within the broader social context. Graduates are expected to be in high demand as the media industry progressively shifts its delivery to the newer modalities made possible by the Internet and the World Wide Web.

**Aims & Objectives**

The course develops an in-depth understanding of the broad range of creative design aspects of multimedia systems and combines this with the study of media and communications practices, influences and politics.

**Campus**

Hawthorn and Prahran.

**Career opportunities**

Graduates of this program are expected to be in high demand as the media industry progressively shifts its delivery to the newer multimedia platforms. Examples include web authoring for the new wave of electronic publications and news broadcasts, computer authoring and information architecture.

**Course duration**

Three years full-time. An optional and additional year of Industry-based Learning (IBL) is also available.

**Structure**

This course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed to be equivalent to one hour of student work per week over a semester, whether in contact with staff or in private study. Four subjects, each worth 12.5 credit points, will generally be taken each semester. The typical student’s average weekly workload during semester is therefore expected to be fifty hours. Total student contact hours, including lectures, classes, tutorials, flexible learning and laboratory and field sessions will vary in different semesters.

**Course subjects**

**Semester 1**

- HDM101 Design for Multimedia 1
- HET113 The Internet & WWW 1
- HBM110 The Marketing Concept
- HALM103 Media, Literature & Film: Theory & History

**Semester 2**

- HET213 The Internet & WWW 2
- HBM220 Market Behaviour
- HMM111 Quantitative Analysis B

**Semester 3**

- HET218 Learning & Instructional Design
- HBM222 Marketing Planning
- HBM270 eBusiness

**Semester 4**

- HET208 3D Animation & Special Effects
- HET229 Computer Authoring
- HBM223 Transnational Marketing
- HBM271 eCustomer Relationship Marketing

**Semester 5**

- HET401 Multimedia Systems
- HET401 Multimedia Project 1
- HBM272 eMarketing
- Elective* (Choose one):
  - HBM330 Product Management
  - HBM331 Services Marketing & Management
  - HBM332 Communications Strategy

**Semester 6**

- HET409 Advanced Multimedia
- HET402 Multimedia Project 2
- HBM341 Business Strategy

* Electives will be offered subject to a sufficient number of enrolments.
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC) consideration of their employment and educational background. VCE prerequisites: Units 3 & 4 - English (any) with a study score of at least 25. as an interstate or international Year 12 qualification. Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an International Baccalaureate (IBL) is also available.

Further information
Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: www.swin.edu.au/biosciences

J060 Bachelor of Multimedia (Multimedia Software Development)
VTAC code: 34091 (HECS), 34093 (Int. Fee)
2001 Clearly-in ENTER: 85.55

This course would serve the needs of those wishing to pursue a multimedia oriented career, particularly related to the production, development and design of multimedia applications in their respective chosen discipline. It includes major studies in software development using an object-oriented approach and multimedia design using authoring tools. It also aims to develop an in-depth understanding of the broad range of creative and design aspects of multimedia and internet technologies.

It provides students with a solid knowledge and practical base in Internet programming, design for multimedia, authoring multimedia and the Internet and the World Wide Web (WWW). The course can be regarded as an Information Technology program due to the focus on software development and programming, database design and development, and data communications and networking. In addition, it can be regarded as an electronic media development program, due to the coverage of graphics and animation and video technology. It also has a design focus with coverage of usability and design issues.

Note: students who wish to study a course which includes advanced computer programming and the development of complex, web-based systems should apply to study the Bachelor of Applied Science (Computer Science and Software Engineering) program. Students who wish to undertake a course which develops advanced skills in software engineering should apply to study the Bachelor of Software Engineering program.

Aims & Objectives
- To provide the knowledge and skills necessary to become a multimedia programmer.
- To provide a foundation in the technical aspects of multimedia software development through knowledge in the fundamental areas of database, data communications, multimedia systems and software development.
- To provide knowledge and skills enabling the development and engineering of usable systems integrating different media types.
- To provide the skills and knowledge to enable the development of different types of media, including 3-D animations and the main media elements.

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Hawthorn

Career opportunities
Graduates of this course will be well equipped to meet the predicted growth in industry demand for professionals in multimedia and web design. They will have extensive skills in software development using an object-oriented approach, Java programming, and multimedia design. They also will have developed experience in a broad range of creative and design aspects of multimedia and Internet technologies.

Professional recognition
This degree is accredited at professional level towards membership of the Australian Computer Society.

Course duration
Three years full-time. An optional and additional year of Industry-based Learning (IBL) is also available.

Structure
Total student contact hours, including lectures, classes, tutorials, flexible learning and laboratory and field sessions will vary in different semesters. Students select two IT electives during the program. Availability of electives is subject to timetabling and resource constraints.

Elective* (Choose one):
HAH103 Critical Thinking
HAL103 Writing Fiction
HAP117 International Politics
HAP221 Modern Australia
HAP224 Emergence of Modern Asia
HAS100 Sociology 1A (Introductory Sociology)
HMA103 Statistics & Research Methods

Semester 2
HOMD102 Design for Multimedia 2
HET123 The Internet & WWW 2
HALM201 Media Voices, Media Style: The Process of Journalism, OR
HALM206 Special Issues in the Media

Elective* (Choose one):
HAH103 Critical Thinking
HAL103 Writing Fiction
HAP101 History of Ideas
HAS101 Sociology 1B (Social Institutions and Social Change)
HMA103 Statistics & Research Methods

Semester 3
HOMD201 Design for Multimedia 3
HET218 Learning & Instructional Design
HAM211 New Media: The Telecommunications Revolution
HAM313 Radio Production & Criticism

Semester 4
HET208 3D Animation & Special Effects
HET229 Computer Authoring
HAM315 Information Society: A Global Perspective

Elective* (Choose one):
HASM301 Cyber Cities, OR
Media Studies Elective
Arts Elective

Semester 5
HET404 Multimedia Systems
HET401 Multimedia Project 1
HALM316 Electronic Writing

Elective* (Choose one):
HAM310 Popular Culture
HAM312 Cinema Studies

Semester 6
HET409 Advanced Multimedia
HET402 Multimedia Project 2
Elective (Choose two):
HASM201 eSociety (Sociology of the Electronic Age)
Media Studies Elective
Arts Elective

Electives will be offered subject to a sufficient number of enrolments.

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - English (any) with a study score of at least 25.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).
### Course subjects

#### Stage 1

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<thead>
<tr>
<th>Semester 1</th>
<th>Course subjects</th>
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<tr>
<td></td>
<td>HMD101 Design for Multimedia 1</td>
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<td>HET113 The Internet &amp; WWW 1</td>
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<td>HIT105 Computer Systems</td>
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<td>HIT1051 Software Development 1</td>
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<th>Semester 2</th>
<th>Course subjects</th>
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<td></td>
<td>HMD102 Design for Multimedia 2</td>
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<td>HET123 The Internet &amp; WWW 2</td>
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<tr>
<td></td>
<td>HIT1031 Introduction to Software Engineering</td>
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<td>HIT1052 Software Development 2</td>
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#### Stage 2

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<th>Semester 1</th>
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<td>HMD2001 Design for Multimedia 3</td>
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<td>HET218 Learning &amp; Instructional Design</td>
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<td>HIT2016 Database 1</td>
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<td>HIT2024 Introduction to HCI, OR IT Elective 1</td>
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<th>Semester 2</th>
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<td>HET208 3D Animation &amp; Special Effects</td>
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<td>HET229 Computer Authoring</td>
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<td>HIT2020 Data Communications</td>
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<td>HIT2024 Introduction to HCI, OR IT Elective 1</td>
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#### Stage 3

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<td>HET404 Multimedia Systems</td>
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<td>HET401 Multimedia Project 1</td>
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<td>HIT3044 Professional Issues in Information Technology, OR IT Elective 2 IT Elective 3</td>
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<th>Semester 2</th>
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<td>HET409 Advanced Multimedia</td>
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<td></td>
<td>HET402 Multimedia Project 2</td>
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<tr>
<td></td>
<td>HIT3044 Professional Issues in Information Technology, OR IT Elective 2 IT Elective 4 IT Electives</td>
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</table>

Availability of electives is subject to timetable and resource constraints.

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<tr>
<th>Course subjects</th>
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<tr>
<td>HIT2010 Business Programming 2</td>
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<td>HIT2014 Operating Systems</td>
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<td>HIT3010 Component Based Development</td>
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<td>HIT3017 Database 2</td>
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<td>HIT3018 Database 3</td>
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<tr>
<td>HIT3019 Interactive System Design</td>
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<td>HIT3036 Information Technology Strategies</td>
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<td>HIT3038 Knowledge Based Systems</td>
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<td>HIT3039 Local Area Networks</td>
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<td>HIT3045 Personal Software Process</td>
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<td>HIT3050 Evolutionary and Neural Computing</td>
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<td>HIT3063 UNIX Systems Programming</td>
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<td>HIT3064 Wide Area Networks</td>
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<td>HIT3072 C++ for Programmers</td>
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<tr>
<td>HIT3084 E-Commerce: A Business Perspective</td>
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<td>HIT3087 Advanced Java</td>
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<td>HIT3142 Object Oriented Modelling</td>
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</tbody>
</table>

Note: Introduction to Human Computer-Interaction must be undertaken in Semester 1 or 2 in Stage 2. Professional Issues in Information Technology must be undertaken in Semester 1 or 2 in Stage 3.

#### Entry requirements

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English and one of Maths (any). Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

#### Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

#### Further information

Contact the School of Information Technology on +61 3 9214 5505

#### J043 Bachelor of Multimedia (Networks and Computing)

**VTAC code:** 34111 (HECS), 34113 (Int. Fee)

2001 Clearly-in ENTER: 86.25

This course develops an in-depth understanding of the broad range of development aspects of multimedia systems and the technologies underpinning them, with a particular emphasis on the internet and computer communications.

#### Aims & Objectives

The course aims to equip graduates with skills in the software development, computer network and multimedia fields. Graduates will be in demand for their unique blend of these skills, as more and more multimedia applications are developed for delivery on computer networks and the Internet.

#### Career opportunities

This course would serve the needs of those wishing to pursue a multimedia-oriented career, particularly related to the production and design of multimedia applications in their respective chosen discipline, as expressed by the co-major. This program covers sufficient studies in software development to enable graduates to exploit this in areas such as Java-based website development. In addition graduates can expect to be in demand for their networking skills in the multimedia industry to manage corporate LANs, intranets and other Internet access facilities.

#### Course duration

Three years full-time. An optional and additional year of Industry-based Learning (IBL) is also available.

#### Structure

This course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed to be equivalent to one hour of student work per week over a semester, whether in contact with staff or in private study. Four subjects, each worth 12.5 credit points, will generally be taken each semester. The typical student’s average weekly workload during semester is therefore expected to be fifty hours. Total student contact hours, including lectures, classes, tutorials, flexible learning and laboratory and field sessions will vary in different semesters.

#### Course subjects

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<tr>
<th>Semester 1</th>
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<td></td>
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<td>HET113 The Internet &amp; WWW 1</td>
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<td>HMS111 Engineering Mathematics 1</td>
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<td>HIT1051 Software Development 1</td>
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<tr>
<th>Semester 2</th>
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<td>HMD102 Design for Multimedia 2</td>
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to the continued convergence of multimedia systems and communications networks, currently typified by the World Wide Web.

The core specialist studies are in creative design of multimedia, computer software development with emphasis on human computer interaction, the design of interactive learning systems, computer systems hardware and electronics, including image and audio processing, electronic communications techniques, broadband interactive telecommunications networks, computer networks and internetworking, teletraffic analysis, information theory, mobile and personal communications and the role and regulation of telecommunications technology in society.

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**Career opportunities**

Potential career and market opportunities include: creation, development and technology management's roles in interactive multimedia within the advertising; instructional design, business promotion, training, education and on-line entertainment industries, as well as technology integration of telecommunications systems; computer networks, broadband interactive on-line networks, integrated computer and communication infrastructures for global networking.

**Professional recognition**

Membership of The Institution of Engineers, Australia.

**Course duration**

Five years full-time. An optional and additional year of Industry-based Learning (IBL) may also be available.

**Structure**

This course will operate under a student workload model based on 100 credit points for a full-time academic year. One credit point is deemed to be equivalent to one hour of student work per week over a semester, whether in contact with staff or in private study. Four subjects will generally be taken each semester. The typical student’s average weekly workload during semester is therefore expected to be fifty hours. Total student contact hours, including lectures, classes, tutorials, flexible learning and laboratory and field sessions will vary in different semesters.

**Course subjects**

- **Semester 1**
  - HDMD101 Design for Multimedia 1
  - HET113 The Internet & WWW 1
  - HIT1051 Software Development 1
  - HMS111 Engineering Mathematics 1

- **Semester 2**
  - HDMD102 Design for Multimedia 2
  - HET123 The Internet & WWW2
  - HET224 Computer Communications & LAN's
  - HIT1052 Software Development 2

- **Semester 3**
  - HDMD201 Design for Multimedia 3
  - HET218 Learning & Instructional Design
  - HET432 Internetworking
  - HIT3072 C++ for Programmers, OR
  - HIT3087 Advanced Java

- **Semester 4**
  - HET208 3D Animation & Special Effects
  - HET229 Computer Authoring
  - HET410 Network Administration
  - HMS213 Engineering Mathematics 3B

- **Semester 5**
  - HET404 Multimedia Systems
  - HET313 Telecommunication Technologies
  - HET424 IP Technologies

- **Semester 6**
  - HET409 Advanced Multimedia
  - HIT2016 Database 1
  - HET402 Multimedia Project 2, OR
  - HMS214 Engineering Mathematics 4B
  - HES3380 Engineering Management 1, OR
  - HIT1031 Introduction to Software Engineering, OR
  - HIT182 Electronics Systems

**Entry requirements**

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - English (any) with a study score of at least 25, and Mathematical Methods.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

**Application procedure**

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

**Further information**

Contact the School of Biophysical Sciences and Electrical Engineering

Telephone: +61 3 9214 9859

Fax: +61 3 9819 0956

Email: bsee@swin.edu.au

Website: www.swin.edu.au/bioscieleceng

**DOUBLE DEGREES**

**J032 Bachelor of Multimedia (Networks and Computing) / Bachelor of Engineering (Telecommunications and Internet Technologies)**

VTAC code: 34151 (HECS), 34153 (Int. Fee)

2001 Clearly-in ENTER: 90.50

This double degree program provides in-depth specialist engineering knowledge of the international telecommunications industry and global networks and also of technical and creative aspects of multimedia systems. This is particularly relevant...
Activities and skills help prepare students for management and leadership discussions, interviewing, planning group projects and organising seminars. These people. Course activities which develop these skills include public speaking, group of the life-long process of personal development and which are also highly valued condition. They also acquire a range of ‘generic skills’ - skills which are a key part areas which deepen their understanding of the history and potential of the human condition Swinburne Arts graduates are well equipped to find work in areas where employers put a high premium on generic skills. These areas include:

- Policy analysis and development.
- Research.
- Community development.
- Administration.
- Public relations.
- Publishing.
- Media.

Three-week study tours to the European Community, Thailand and Korea are available as elective subjects within the Swinburne BA. These tours provide an excellent opportunity for students to gain a basic understanding of the economy, culture, history and business environment of particular countries. Students not only visit companies, government departments, small businesses, factories and other universities, they also visit cultural and tourist attractions. A number of international exchange programs in place with institutions in countries such as Canada, Hungary, Italy, Japan, Korea, Thailand and the United States of America, where students may study overseas for one or two semesters and gain full credit towards the Bachelor of Arts program.

**Campus**

Hawthorn

**Career opportunities**

Listed below are some examples of career opportunities available for graduates based on their chosen major area of study. With further study, Arts graduates can also gain qualifications for a range of other occupations. For example, they may become librarians, teachers, personnel officers or social workers.

- Asian Studies: Media, government, commerce and industry.
- Australian Studies: Teaching, private and public sectors, human services.
- Cultural Studies: Social work, diplomatic corps, teaching.
- Electronic Society: Media, research, public relations and commerce.
- European Studies: Particularly relevant for students wishing to pursue a career in the international business environment.
- Italian: Ideal for working with Italians in Australia or overseas, and especially useful in fields such as marketing, accountancy, or psychology.
- Japanese: Teaching, events organising, interpreting, tourism (within Australia and Japan).
- Literature: Journalism, advertising copy writing, hypertext writing, teaching.
- Media Studies: Journalism, radio production, public relations, communications research.
- Philosophy and Cultural Inquiry: Broad or specialist career destinations such as social policy areas, private and public sector management, medical and bio-ethics, computer programming, legal studies.
- Politics: Media, publishing, personnel, government, commerce and industry.
- Psychology: Research, human resources, personnel, advertising. Further study is required to become a psychologist.
- Sociology: Social research, administration, community development, public housing, human resources, marketing, social work.

**Professional recognition**

The three-year undergraduate sequence in Psychology at Swinburne is accredited by the Australian Psychological Society.
Course duration
Three years full-time or equivalent part-time.

Structure
The Bachelor of Arts is a 24-subject degree. All subjects in the degree (Stages 1, 2 and 3) carry 12.5 credit points. (The complete degree carries 300 credit points). A full-time student normally takes eight subjects (100 credit points) per year. In each year, four subjects per semester normally constitute a full-time load of 50 credit points, while two subjects per semester normally constitute a part-time load of 25 credit points.

In order to enhance their generic skills profile, employability and capacity to pursue further study, all Swinburne Bachelor of Arts students must take a core Stage 1 subject in Research Methods and Statistics. Students undertaking a psychology major must complete the subject HMA103 Statistics and Research Methods. Students NOT undertaking a psychology major must complete the subject HMA104 Statistics and Research Methods B.

Evening classes are offered in many subjects. Students may choose whether they attend classes during the day, evening or a combination of both (subject to availability of places). In most subjects, assessment is by a combination of assignments and examinations. Students are informed of assessment requirements for each subject during the first week of classes.

Majors/Specialisation
A major is a three-stage sequence of study in the one discipline or specialisation. In the Bachelor of Arts, a major normally consists of one or two Stage 1 subjects followed by seven post-Stage 1 subjects. At least two post-Stage 1 subjects must be taken at Stage 2 and at least three post-Stage 1 subjects must be taken at Stage 3. The remaining post-Stage 1 subjects may be taken at Stage 2 or 3. Please consult individual entries for each major for the exact requirements.

To qualify for the award of the Bachelor of Arts degree, students must complete two majors, with at least one major chosen from the available Bachelor of Arts majors:

- Asian Studies
- Australian Studies
- Cultural Studies
- Electronic Society
- European Studies
- Italian Studies
- Japanese
- Literature
- Media Studies
- Philosophy & Cultural Inquiry

Subject to timetable compatibility, students may choose as a second major any other major from the Bachelor of Arts majors, a major from either the Bachelor of Social Science or the Bachelor of Business degrees, or any other approved major from elsewhere in the University.

Bachelor of Social Science majors:
- Politics
- Psychology
- Sociology

Bachelor of Business majors:
- Accounting
- eMarketing
- Finance
- Human Resource Management/Organisation Behaviour
- Information Systems
- International Business
- Management
- Manufacturing Management
- Marketing

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any).

Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed. Because of restrictions on the number of places, not all eligible applicants can be offered a place.

Application procedure
Full-time applications must be made through the Victorian Tertiary Admissions Centre (VTAC). Part-time applications should be made directly to the School of Social and Behavioural Sciences on the approved form.

Further information
Contact the School of Social and Behavioural Sciences
Telephone: +61 3 9214 5209
Email: sbsadmin@swin.edu.au

ARTS MAJORS/MINORS

Asian Languages and Cultures (Japanese)
In view of the relations established between Australia and Japan on all levels of the national life, it is advisable that a study of Japanese language, both spoken and written, be undertaken by a greater number of Australians. Furthermore, it is important that a knowledge and understanding of Japan be increased in Australia. The Japanese programs train students to communicate effectively in Japanese and provide the opportunity to study Japanese culture, society and economy through the language. The emphasis is on contemporary Japanese.

Career opportunities
Teaching, events organising, interpreting, tourism (within Australia and Japan).

Structure
The language subjects offered in Japanese have been specifically designed for non-native speakers of the Japanese language. These subjects will not meet the needs of native speakers of Japanese who will not be eligible to enrol in the language.

A major in Japanese can be completed in a Beginners or Advanced (post-VCE Japanese) Stream. Students who intend, on graduating, to teach Japanese either at primary or secondary level or who do not wish to preclude this possibility should note that the exit point required for attainment of the Japanese major is the third-year Advanced level. To achieve this, students are advised to transfer to the Advanced stream by enrolling in third year Advanced subjects after completing second year. A credit is the minimum requirement to be able to transfer to the Advanced course.

Note: Students whose Stage 2 results are credit or above in either the Beginners or the Advanced stream may choose to study a part of their third year course at an approved tertiary institution in Japan. A scholarship scheme has been established to enable students to undertake this alternative.

Course subjects

Japanese Beginners Stream
Stage 1
- HAJ107 Introductory Japanese 1A
- HAJ108 Written Japanese 1B
- HAJ109 Spoken Japanese 1B

Stage 2
- HAJ215 Intermediate Japanese 2A
- HAJ217 Written Japanese 2B
- HAJ218 Spoken Japanese 2B

Stage 3
- HAJ318 Written Japanese 3A
- HAJ319 Spoken Japanese 3A
- HAJ323 Written Japanese 3B
- HAJ324 Spoken Japanese 3B

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**Japanese Advanced Stream**

**Stage 1**
- HAJ131 Advanced Japanese 1A
- HAJ132 Advanced Written Japanese 1B
- HAJ133 Advanced Spoken Japanese 1B

**Stage 2**
- HAJ231 Advanced Japanese 2A
- HAJ232 Advanced Written Japanese 2B
- HAJ233 Advanced Spoken Japanese 2B
- HAJ234 Advanced Spoken Japanese 3B

**Stage 3**
- HAJ331 Advanced Written Business Japanese
- HAJ332 Advanced Spoken Business Japanese
- HAJ333 Advanced Business Readings and Communications

Students undertaking a major in Japanese (both Beginners and Advanced streams) are strongly advised to enrol also in HAJ102 Introduction to Japan - A Cultural Overview and HAJ202 Communication in Japanese, which provide an essential background to Japanese language and culture, in the following order:
- HAJ102 Introduction to Japan - A Cultural Overview, offered in both semesters concurrently with the first year subjects of each stream.
- HAJ202 Communication in Japanese, offered in semester one concurrently with the second year subjects of each stream.

Students who have completed Stage 2 Japanese Language Studies may choose to study HAJ340 Asia - Business Context as a Stage 3 subject.

**Further information**
Contact the School of Social and Behavioural Sciences on +61 3 9214 5209

**Stage 3**
- HBM338 Asian Pacific Business Practice (Business)

The following subjects can be taken at Stage 2 or Stage 3, but not both:
- HAJ340 Asia - Business Context (Japanese)
- HAP224/HAP324 The Emergence of Modern Asia (Politics)
- HASP306 Quantitative Research Methods (Sociology)
- HASP307 Qualitative Research Methods (Sociology)
- HBI391 Pacific Rim Business Study Tour (Business)

**Further information**
Contact the School of Social and Behavioural Sciences on +61 3 9214 5209

**Australian Studies**

Australian Studies examines Australian society and its cultures from several different disciplinary perspectives. Its main objective is to provide a solid body of knowledge about the political, economic and social history of twentieth century Australia. From that base, it provides the opportunity to undertake specific studies within particular disciplines such as Literature, Media Studies, Philosophy and Cultural Inquiry, Politics and Sociology. It offers a broad perspective on contemporary public issues and a context for the analysis of questions in other disciplines.

Australian Studies encourages students to identify connections between political and social institutions, cultural practices and economic structures, to analyse how they are changing and the effects of those changes. It is about the dynamics of contemporary Australian society. The Australian Studies program combines training in established disciplines with the more flexible, problem-solving approach that boundary-crossing allows. It also has the benefit of permitting students to follow their intellectual enthusiasms as they develop over the three years.

**Career opportunities**
Australian Studies offers the generic intellectual skills that the Swinburne Bachelor of Arts and Bachelor of Social Science emphasise. These are not strictly vocational, but they are what many employers are looking for in graduates. They form an ideal complement to specific career training.

**Structure**

An Australian Studies major must include one Stage 1 subject, and at least seven post Stage 1 subjects. At least two of these post Stage 1 subjects must be taken at Stage 2 and three at Stage 3. The remaining post Stage 1 subjects may be taken at Stage 2 or 3.

There is a core sequence of three compulsory subjects in the Australian Studies major:
- HAP100 Australian Politics
- HAP221/HAP321 Modern Australia
- HASP301 Work in Australia

**Course subjects**
The Australian Studies major consists of the following:

**Stage 1**
- HAJ102 Introduction to Japan: A Cultural Overview (Japanese)
- HAP117 International Politics (Politics)

**Stage 2**
- HAJ202 Communication in Japanese (Japanese)

**Stage 3**
- HBM338 Asian Pacific Business Practice (Business)

The following subjects can be taken at Stage 2 or Stage 3, but not both:
- HAJ340 Asia - Business Context (Japanese)
- HAP224/HAP324 The Emergence of Modern Asia (Politics)
- HASP306 Quantitative Research Methods (Sociology)
- HASP307 Qualitative Research Methods (Sociology)
- HBI391 Pacific Rim Business Study Tour (Business)

**Further information**
Contact the School of Social and Behavioural Sciences on +61 3 9214 5209

**Contact**

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**Stage 1**
Course subjects

HAH309 Philosophy of Culture and HAH210/HAH310 Philosophy, Media, Culture.

There is a core sequence of two compulsory subjects in the Cultural Studies major:

- HAH209/HAH309 Philosophy of Culture (compulsory)
- HAH210/HAH310 Philosophy, Media, Culture

**Structure**

A Cultural Studies major must include one Stage 1 subject, and at least seven post Stage 1 subjects. At least two of these post Stage 1 subjects must be taken at Stage 2 and three at Stage 3. The remaining post Stage 1 subjects may be taken at Stage 2 or 3.

There is a core sequence of two compulsory subjects in the Cultural Studies major: HAH309 Philosophy of Culture and HAH210/HAH310 Philosophy, Media, Culture.

**Course subjects**

The Cultural Studies major consists of the following:

**Stage 1**

- HAA119 Post War Italy
- HAH100 Introduction to Philosophy
- HAH101 History of Ideas
- HAJ102 Introduction to Japan: A Cultural Overview
- HALM104 Media Literature Film: Texts and Contexts

**The following subjects may be taken at Stage 2 or Stage 3 but not both:**

- HAH208/HAS309 Philosophy of Culture (compulsory)
- HAH210/HAS310 Philosophy, Media, Culture (compulsory)
- HAH212/HAS312 Natural Philosophy and The Sciences
- HAH223/HAS323 Environmental Philosophy
- HAH225/HAS325 Philosophy, Politics, and Society

**Stage 2**

- HALM200 Reading, Writing and Criticism
- HAM210 Popular Culture
- HASM201 eSociety: Sociology of the Electronic Age
- HASP202 Social Theory

**Stage 3**

- HAL309 Renaissance Literary Culture
- HAM312 Cinema Studies
- HAY307 Social Psychology

**Further information**

Contact the School of Social and Behavioural Sciences on +61 3 9214 5209

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**Electronic Society**

We are living in a networked society: electronic telecommunications networks are impacting upon all facets of daily life. New forms of connectivity, made possible by information and communication networks, are contributing to the development of a different kind of society. New forms of social interaction are evolving, as people throughout the globe have daily access to more and more people outside their local communities. This has precipitated the formation of new social congregations, so-called ‘virtual communities’ that have no unified, geographical location, yet cohere in the ‘cyberspace’ of the electronic network. Changing notions of community necessitate careful rethinking of concepts such as place, space and identity, culture, work, domestic life and the public sphere. The Electronic Society major is designed to introduce students to the broad range of issues involved in the rise of the networked society and the implications of global culture.

The Electronic Society major is interdisciplinary in its focus and is designed to offer students the opportunity to explore these issues from a broad range of perspectives. Subjects in the major are drawn from the disciplines of Media and Communications, Politics, Philosophy and Cultural Inquiry, Psychology and Sociology.

**Career opportunities**

Understanding of the issues involved in the emergence of an electronic society is relevant to virtually all industries and professions, as the impact of the networked society has touched all facets of social and cultural life. In particular, graduates who have studied Electronic Society will be sought after by industries such as human services, broadcasting and telecommunications. There are also opportunities in community development, marketing, the public housing sector, as well as arts organisations and funding bodies.

**Structure**

A major in Electronic Society consists of one Stage 1 subject and at least seven post Stage 1 subjects. At least two of these post Stage 1 subjects must be taken at Stage 2 and three at Stage 3. The remaining post Stage 1 subjects may be taken at Stage 2 or 3.

**Course subjects**

**Stage 1**

- HAM105 The Media in Australia
- HAS100 Sociology 1A

**Stage 2**

- HALM206 Issues of Electronic Media
- HAM211 New Media: The Telecommunications Revolution
- HASM201 eSociety: Sociology of the Electronic Age
- HAY208 Cognition and Human Performance

**Stage 3**

- HAM315 Information Society: A Global Perspective

**Further information**

Contact the School of Social and Behavioural Sciences on +61 3 9214 5209
European Studies

The major in European Studies allows students to study contemporary European issues by offering a combination of subjects chosen from: Language and Culture, Literature, Politics, Philosophy, Sociology and Business. The aim of this major is to develop an understanding of the events that are shaping Europe today. Students undertaking the major in European Studies will be better equipped to understand the politics, societies and business cultures of the European region.

Career opportunities

The major in European Studies will be of interest to students keen to pursue a career in the international business environment. Australia conducts substantial trade with Europe - the EU is Australia’s second largest trading partner overall, and Australia’s largest market for services. The major in European Studies seeks to provide Swinburne graduates with a professional preparation for the European Single Market and develop in students the competence and skills required for the cultural, social, legal and political changes that are taking place in the European region today.

Structure

A European Studies major must include one Stage 1 subject, and at least seven post Stage 1 subjects. At least two of these post Stage 1 subjects must be taken at Stage 2 and three at Stage 3. The remaining post Stage 1 subjects may be taken at Stage 2 or 3.

HAP117 International Politics is a compulsory first year subject for the major in European Studies.

A highlight of the major in European Studies is that two elective subjects are taken in Europe. The first of these, a European Study Tour, involves a 3-4 week tour of several European countries and includes briefing sessions with major European companies, visits organised to European Institutions such as the European Parliament, the European Court of Justice and formal lectures offered by European universities. The second (elective) subject, Work Experience in Europe, involves work experience in a European country of choice.

Course subjects

The European Studies major consists of the following:

Stage 1

- HAP117 International Politics (compulsory)
- HAA119 Post-War Italy
- HAA181 Italy and its Language 1

Stage 2

- HAA289 Comparative European Politics
- HB1288 European Union
- HAH209/HAH309 Philosophy of Culture

Stage 3

- HB1389 Work Experience in Europe
- HB1390 Study Tour to European Union
- HAA377 International Business in the Italian Context
- HB1392 European Union Business Context
- HAL309 Renaissance Literary Culture

Students may not double-count subjects for two majors. In choosing optional subjects at Stages 2 and 3, students must have completed the prerequisites for those subjects. Where an alternative is not specified, the subject convenor is to approve the enrolment.

Further information

Contact the School of Social and Behavioural Sciences on +61 3 9214 5209

Italian Studies

Italian Studies at Swinburne, offered in conjunction with European Studies, provides an insight into Italy, a modern, thriving and wealthy European country, industrially, economically and technologically advanced, among the top seven leading powers in the world.

The Italian Studies major is designed to acquaint students with Italian, an important cultural community and commercial language. The broad aim is to enable students to communicate with Italians, on both linguistic and socio-cultural levels. The major study in Italian therefore strongly emphasises language acquisition, and progressively treats those aspects of Italian language, literature, history, geography, economics, sociology, politics and culture appropriate to an understanding of the modern nation and its inhabitants.

A degree major in Italian may be obtained by undertaking studies in one of two streams offered: a Beginner stream and an Advanced (post-VCE) stream. The Advanced (post-VCE) stream requires a pass and above at VCE level or equivalent.

Career opportunities

Proficiency in Italian is an extremely useful skill to possess in addition to expertise in other fields such as arts, business, engineering, applied science and design. Graduates in Italian find employment in a wide range of professions including international business and trade, management, public relations, travel and tourism, social work, journalism and teaching.

Structure

It should be noted that the Italian major is generally sequential. Therefore students usually must complete all subjects in Stage 1 Italian before enrolling in the Stage 2 subjects and these, in turn, should be completed before enrolling in the Stage 3 subjects.

Note: Students who intend, on graduating, to teach Italian either at primary or secondary level or who do not wish to preclude this possibility should note that the exit point required in the Italian Studies major must be at the third-year Advanced level. To achieve this, it is suggested that students transfer to the Advanced stream by enrolling in HAA384 Individual Project after completing HAA283 Italian ZZ. A credit is the minimum requirement to be able to transfer to the Advanced course.

An honours program in Italian is available and MA and PhD programs by research and thesis in Italian are currently being offered. A double degree Bachelor of Business/Bachelor of Arts (Italian) is also available.

Course subjects

The following subjects form a major in the Beginners stream:

Stage 1

- HAA119 Post-War Italy
- HAA181 Italy and its Language 1
- HAA182 Italy and its Language 2

Stage 2

- HAA281 Italian ZZ
- HAA282 Introductory Business Italian ZZ
- HAA283 Italian ZZ
- HAA289 Comparative European Politics

Stage 3

Three of:

- HAA377 International Business in the Italian Context
- HAA381 Italian 3
- HAA387 Advanced Business Italian
- HAA388 Contemporary Italy

The following subjects form a major in the Advanced (post-VCE) stream:

Stage 1

- HAA119 Post-War Italy
- HAA181 Advanced Italian 1A
- HAA185 Advanced Italian 1B

Stage 2

- HAA284 Advanced Italian 2A
- HAA285 Introductory Business Italian 2B
- HAA286 Advanced Italian 2C
- HAA289 Comparative European Politics

Stage 3

Three of:

- HAA377 International Business in the Italian Context
- HAA384 Individual Project
- HAA387 Advanced Business Italian
- HAA388 Contemporary Italy
The following subjects related to Italian studies are also offered for both streams:

- HB288 European Union
- HB289 Work Experience in Europe
- HB290 Study Tour to the European Union
- HB292 European Union - Business Context

Further information

Contact the School of Social and Behavioural Sciences on +61 3 9214 5209

Literature

Traditionally, Literature has involved the close reading and evaluation of valued writings. But it also involves even closer attention to what writing is, and how it comes to be valued. Literary works do not exist in a vacuum, but rather are produced and understood in the context of a literary culture - a collective body of assumptions about the world, the written word, creativity, authority and representation. An understanding of the concept of literary culture is central to Literature at Swinburne and to any informed understanding about the current state of art and communication in the Age of Information. One of the most fascinating challenges facing literary studies is the shift from a culture based on, and formed by the book, to a "wired" society increasingly dominated by electronic media, where an encyclopaedia can be stored on a compact disk. Far from being obsolete in this new information age, the study of literary culture is central to an understanding of the transition from the page to the screen. Literature at Swinburne is in touch with these developments, and provides useful links with subjects such as Media Studies and Information Systems. The study of Literature is principally concerned with how we relate to and make sense of the world through writing. The Literature major at Swinburne is designed to provide students with the opportunity to consider literary works from a variety of historical periods, ranging from the Renaissance to the Cyberculture of the twentieth century. Students also consider issues such as the changing nature of culture as we move into an 'Age of Information'.

Career opportunities

A Literature major provides students with a range of skills and experiences relevant to any profession that requires the ability to construct and evaluate arguments clearly, and to think laterally, flexibly and independently. Apart from careers in journalism, advertising and education, Literature also equips graduates to take up positions in the social services, where sensitivities to cultural difference and the ability to communicate clearly and effectively are paramount. There is also an emerging market in creative writing for interactive multimedia, and provides useful links with subjects such as Media Studies and Information Systems. The study of Literature is principally concerned with how we relate to and make sense of the world through writing. The Literature major at Swinburne is designed to provide students with the opportunity to consider literary works from a variety of historical periods, ranging from the Renaissance to the Cyberculture of the twentieth century. Students also consider issues such as the changing nature of culture as we move into an 'Age of Information'.

Structure

A Literature major must include one Stage 1 subject, and at least seven post Stage 1 subjects. At least two of these post Stage 1 subjects must be taken at Stage 2 and three at Stage 3. The remaining post Stage 1 subjects may be taken at Stage 2 or 3. The subject HALM104 Media Literature Film: Texts and Contexts, is a compulsory subject in the Literature major.

Course subjects

The Literature major consists of the following:

**Stage 1**
- HALM104 Media Literature Film: Texts and Contexts (compulsory)
- HAL103 Writing Fiction

**Stage 2**
- HAL209 Australian Writing and Cultural Change
- HALM200 Reading, Writing and Criticism
- HALM201 Media Voices, Media Style: The Process of Journalism
- HALM206 Issues in Electronic Media

**Stage 3**
- HAL309 Renaissance Literary Culture
- HALM316 Electronic Writing
- HALM317 Media/Literature Project

Note: Subjects with the prefix HALM can be counted towards the Literature major or the Media Studies major, but not both. For example, if HALM200 Reading, Writing and Criticism is counted towards a Literature major, it cannot also be counted towards a Media Studies major.

Further information

Contact the School of Social and Behavioural Sciences on +61 3 9214 5209

Media Studies

The study of the media and its place in the technological revolution is an increasingly significant issue. Questions about the nature of communication and its social and ethical consequences are crucial, whether we are dealing with the Internet or with TV news. Swinburne offers a uniquely broad-based education in the media and associated industries. The Media Studies major is taught primarily by people who have had extensive workplace experience (in publishing, the print media and radio) and who share the belief that the student best equipped to face the vagaries of the workplace is the one who has a general as well as a specialised appreciation of how it operates. Students need to understand how the media works and be able to recognise the place they occupy within the broader social context. They also need to be skilled at thinking for themselves, and to be informed and flexible in their approaches to the kinds of problem solving crucial in the development of a professional career.

Media Studies can incorporate a wide range of academic and production subjects. At Swinburne, they fall into three overlapping groups:

- **Textual analysis**, which is concerned with the various ways in which we make sense of film and media materials (TV, print, new media).
- **The study of the political economy of media and telecommunications**, dealing with issues such as ownership and control of the media and the cultural impact of new technologies.
- **Hands-on subjects** in which the emphasis is on publishing, radio production and workplace experience (these are available only after successful completion of the appropriate prerequisites).

Career opportunities

Media Studies students gain employment directly in media industries as well as in media related work. Media Studies is a vital prerequisite for careers in print journalism, radio, television, film distribution and public relations. Positions are increasingly emerging in the exciting telecommunications industry, with telecommunications carriers, suppliers, resellers and service providers. Some specialised opportunities also exist in broadcasting and communications research. The experience of past students has been that, even if they are not always directly employed in a media industry, the knowledge acquired about the media during the course has had many useful applications for them, both professionally and personally.

Structure

A Media Studies major must include two Stage 1 subjects, and at least seven post Stage 1 subjects. At least two of these post Stage 1 subjects must be taken at Stage 2 and three at Stage 3. The remaining post Stage 1 subjects may be taken at Stage 2 or Stage 3. The two first year subjects: HALM104 Media Literature Film: Texts and Contexts and HAM105 The Media in Australia are both compulsory subjects in the Media Studies major.

Course subjects

The Media Studies major consists of the following:

**Stage 1**
- HALM104 Media Literature Film: Texts and Contexts (compulsory)
- HAM105 The Media in Australia (compulsory)

**Stage 2**
- HAM210 Popular Culture
- HAM211 New Media: The Telecommunications Revolution
- HALM200 Reading, Writing and Criticism
- HAM201 Media Voices, Media Style: The Process of Journalism
- HALM206 Issues in Electronic Media

**Stage 3**
- HASM201 eSociety: Sociology of the Electronic Age
The Philosophy & Cultural Inquiry major consists of the following:

Course subjects

- HAH100 Introduction to Philosophy
- HAH101 History of Ideas
- HAH102 Critical Thinking

The following subjects can be taken at Stage 2 or Stage 3, but not both:

- HAH209/HAH309 Philosophy of Culture
- HAH210/HAH310 Philosophy, Media, Culture
- HAH219/HAH319 Philosophical Psychology
- HAH225/HAH325 Philosophy, Politics, and Society

Further information

Contact the School of Social and Behavioural Sciences on +61 3 9214 5209

Philosophy and Cultural Inquiry

The subjects offered by Philosophy and Cultural Inquiry are designed to provide a well-grounded understanding of the major conceptual influences which have shaped our contemporary world view, and thus enhance our prospects for responding insightfully and effectively to the problems of living which confront us today.

To advance this goal, we draw on influential currents in philosophical thought, the history of ideas, social and behavioural research, political theory, and the history and philosophy of science. In the process of opening up our understanding of the world we live in, we introduce students to the techniques of philosophical inquiry in a way which promotes a variety of useful reasoning skills, including conceptual analysis, argument construction and evaluation, critical and creative thinking. The understanding and skills developed through philosophical inquiry play an important part in complementing studies in other disciplines, and, in addition, are of great value in their own right in personal and professional life.

Overall, Philosophy and Cultural Inquiry at Swinburne seeks to promote both philosophical understanding and critical and creative thought, and to do so in a way which complements the activities of the major areas of study within the School of Social and Behavioural Sciences and the University.

Career opportunities

Because of the range of skills it develops, a major in Philosophy and Cultural Inquiry is a very useful qualification in job seeking and professional development. In particular, the ability to solve problems, to communicate, to organise ideas effectively, to understand complex material, and to assess pros and cons - skills which are the life blood of philosophical inquiry - are highly valued by employers. In addition to preparing people trained in philosophy to do many kinds of tasks, the skills and understanding acquired equip people to understand and respond effectively to the changing demands of the work place, and so, to advance professionally as well as personally.

Structure

A Philosophy and Cultural Inquiry major must include one Stage 1 subject, and at least seven post Stage 1 subjects. At least two of these post Stage 1 subjects must be taken at Stage 2 and three at Stage 3. The remaining post Stage 1 subjects may be taken at Stage 2 or 3.

Course subjects

The Philosophy & Cultural Inquiry major consists of the following:

Stage 1

- HAH100 Introduction to Philosophy
- HAH101 History of Ideas
- HAH102 Critical Thinking

The following subjects can be taken at Stage 2 or Stage 3, but not both:

- HAH209/HAH309 Philosophy of Culture
- HAH210/HAH310 Philosophy, Media, Culture
- HAH219/HAH319 Philosophical Psychology
- HAH225/HAH325 Philosophy, Politics, and Society

Further information

Contact the School of Social and Behavioural Sciences on +61 3 9214 5209

N053 Bachelor of Arts (Media and Communications)

VTAC code: 34071 (HECS), 34073 (Int. Fee)

2001 Clearly-in ENTER: 92.75

Part-time study is also available to Australian citizens and holders of Australian residency.

The study of the media and its place in the technological revolution has emerged as a most significant issue for the future. Questions about the nature of communication and its social and ethical consequences are crucial, whether we are dealing with the Internet or with TV news.

Media studies at Swinburne falls into three overlapping groups:

- Textual analysis, which is concerned with the various ways in which we make sense of film and media materials (TV, print, new media).
- The study of the political economy of media and telecommunications, dealing with issues such as ownership and control of the media and the cultural impact of new technologies.
- Hands-on subjects with an emphasis on publishing, radio production and workplace experience (these are available only after successful completion of the appropriate prerequisites).

Offering a uniquely broad-based education in the media and associated industries, the Media and Communications course is primarily taught by people who have had extensive workplace experience (in publishing, the print media and radio) and who share the belief that the student best equipped to face the vagaries of the workplace is the one who has a general as well as a specialised appreciation of how it operates.

Aims & Objectives

This course will enable students to understand how the media works, to be able to recognise the place it occupies within the broader social context, to be skilled at thinking for themselves, and to be informed and flexible in their approaches to problem-solving, which is crucial in the development of a professional career.

Campus

Hawthorn

Career opportunities

Media Studies is a vital ingredient if you are interested in a career as a journalist or a radio producer, or work in public relations or communications research. The experience of past students has been that, even if they are not always directly employed in a media industry, the knowledge acquired about the media during the course has had many useful applications, both professionally and personally.

Course duration

Three years full-time or equivalent part-time.

Structure

The Bachelor of Arts (Media and Communications) is a three-stage program divided into a number of semester subjects. Full-time students usually take eight semester subjects each year. Part-time students usually take four semester subjects each year. Evening classes are offered in most subjects. Students can choose whether they attend classes during the day, evening or a combination of both (subject to availability of places).

In most subjects, assessment is by a combination of class tests, essays and examinations. Students are informed of assessment requirements for each subject during the first week of classes.

To qualify for the award of the Bachelor of Arts (Media and Communications), students must complete at least two majors (one of which must be Media Studies) plus a number of electives. The Media Studies major consists of a minimum of nine subjects over three stages, students must take HALM104 Media, Literature and Film: Texts and Contexts and HAM105 The Media in Australia at Stage 1 followed by seven...
subjects post Stage 1. At least two of these post Stage 1 subjects must be taken as Stage 2 subjects and at least three as Stage 3 subjects. The remaining two post Stage 1 subjects may be taken as either Stage 2 or Stage 3 subjects.

Each subject involves three hours a week of class time plus a similar amount of private study.

Outstanding Bachelor of Arts students have the option of undertaking a specialised fourth year of study, graduating with a Bachelor of Arts (Honours) degree. The honours year is offered in the areas of Media and Cultural Studies, Industry and Community Studies, Languages, Psychology and Social Science. This program provides students with an opportunity to enhance their research ability and permits further studies and specialisation in their major discipline of study.

**Majors/Specialisation**

To qualify for the award of the Bachelor of Arts (Media and Communications) degree, students must complete a Media Studies major and one other major chosen from the available Bachelor of Arts, Bachelor of Social Science or Bachelor of Business majors or from any other approved major from elsewhere in the University.

**Bachelor of Arts majors:**
- Asian Studies
- Australian Studies
- Cultural Studies
- Electronic Society
- European Studies
- Italian Studies
- Japanese
- Literature
- Media Studies
- Philosophy & Cultural Inquiry

**Bachelor of Social Science majors:**
- Politics
- Psychology
- Sociology

**Course subjects**
The Media Studies major includes the following subjects:

**Stage 1**
- HAML104 Media Literature Film: Texts and Contexts (compulsory)
- HAML105 The Media in Australia (compulsory)

**Stage 2**
- HAML210 Popular Culture
- HAML211 New Media: The Telecommunications Revolution
- HAML220 Reading, Writing and Criticism
- HAML221 Media Voices, Media Style: The Process of Journalism
- HAML222 Issues in the Electronic Media
- HASM201 eSociety: Sociology of the Electronic Age

**Stage 3**
- HAML316 Electronic Writing
- HAML317 Media/Literature Project*
- HAML321 Cinema Studies
- HAML324 Radio Production and Criticism A
- HAML325 Professional Attachment Program
- HAML326 Information Society: A Global Perspective
- HAML327 Radio Production and Criticism B
- HAML328 Making News and Making Policy

* A second option for this subject is exclusive to Literature students, and involves an independent research project, conducted over a semester, under the supervision of a member of the Literature staff. Numbers will be limited, and students must have a proven, ongoing work in progress that will form the basis of their assessment. Eligibility for this program depends upon the student having a project on which they have been previously working (say, a book of poems, a novel, a critical essay), and which has been approved by the subject convenor. The subject is designed to develop a work to completion, and prepare, or at least submit it for publication. This work can be of a critical nature, and students are expected to work closely with a supervisor throughout the semester.

**Entry requirements**

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any). Applicants who do not have a Year 12 qualification or who have a non-competitive Year 12 score and no other tertiary study, and have at least five years related work experience, may be considered for admission if they can demonstrate motivation and ability to succeed. Because of restrictions on numbers of places, not all eligible applicants can be offered a place.

Note: There are a limited number of places available in the Bachelor of Arts (Media and Communications) and the number of applications is generally higher (as are the ENTER scores required for entry) than for the general degree programs. Applicants wishing to study Media Studies should therefore consider listing as preferences both specialist and general degree programs offering Media Studies as a major at Swinburne.

**Application procedure**

Full-time applications must be made through the Victorian Tertiary Admissions Centre (VTAC). Part-time applications should be made directly to the School of Social and Behavioural Sciences on the approved form.

**Further information**

Contact the School of Social and Behavioural Sciences

Telephone: +61 3 9214 5209

Email: sbsadmin@swin.edu.au

**DUAL QUALIFICATION**

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<tr>
<th>NO66</th>
<th>Bachelor of Arts / Diploma of Business (Administration)</th>
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<td>VTAC code: 34571 (HECS), 34573 (Int. Fee)</td>
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2001 Clearly-in ENTER: 80.55

The Bachelor of Arts / Diploma of Business (Administration) is an innovative and flexible course taken over four years of full-time study and resulting in students gaining awards in both the Bachelor of Arts and the Diploma of Business. Students undertake subjects from the Diploma run by the University’s TAFE Division and undergraduate subjects taken from the School of Social and Behavioural Sciences. The dual qualification allows students to specialise in the area of Media Studies as well as gain skills in administration. Media Studies is a vital ingredient for a career in journalism or radio production, public relations or communications research. Students must undertake two majors, one of which must be Media Studies. Students may choose any Arts, Social Science or Business major as their second major. Administration involves the use of skills ranging from keyboard and interpersonal skills, to desktop publishing, accounting, organisational procedures and management principles and practices.

**Aims & Objectives**

This course is characterised by its flexibility, variety and innovation and provides a number of opportunities for students to enrich their studies, broaden their education and give themselves a better base from which to seek productive employment.

**Campus**

Hawthorn

**Career opportunities**

Graduates find work in fields such as administration, personnel, publishing, public relations, media and research services.

**Course duration**

Four years full-time.
Structure
The Bachelor of Arts / Diploma of Business (Administration) is a four-stage program divided into a number of semester subjects. The full-time course is normally completed in four years, however on the completion of two years of full-time study students may elect to take out the award of Diploma and not continue with the Bachelor of Arts.

In the first year of the course, students will take one subject each semester from the Bachelor of Arts and the remaining subjects from the Diploma. In the second year, 50% of the student load is comprised of TAFE Subjects and 50% Higher Education Subjects. For the remainder of the course students undertake only Bachelor of Arts subjects.

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 25 in English (any).

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact the School of Social and Behavioural Sciences
Telephone: +61 3 9214 5209
Email: sbsadmin@swin.edu.au

HONOURS YEAR

N052 Bachelor of Arts (Honours)

This program provides opportunities for selected students who have achieved a high standard in the major areas to undertake a specialised fourth year of study, graduating with a Bachelor of Arts (Honours) degree. The honours year is offered in the areas of Media and Cultural Studies, Industry and Community Studies, Languages, Psychology and Social Science.

The Bachelor of Arts (Honours) program is available to students who have completed all requirements for the three-year Bachelor of Arts course at a high standard. A Bachelor of Arts (Honours) qualification denotes strong academic performance and provides the background required to pursue a range of postgraduate studies.

A four-year undergraduate course is required by most universities as a prerequisite to enrolment in masters and doctoral programs. In many cases, an Honours degree is preferred to other forms of fourth year study (e.g., postgraduate diplomas).

The Bachelor of Arts (Honours) program consists of five strands. Students will be required to complete two seminar/coursework subjects and a thesis which consists of two subjects in one of five strands. The total program consists of four subjects.

Campus
Hawthorn

Professional recognition
The Psychology strand of the Bachelor of Arts (Honours) is accredited by the Australian Psychological Society as a fourth year of study in Psychology.

Course duration
One year full-time or equivalent part-time.

Structure
To achieve a Bachelor of Arts (Honours) students must complete a range of class requirements depending upon in which strand a candidate is enrolled. For the thesis subjects, students submit a thesis, which will normally be in the range of 10,000 to 15,000 words. This will be supervised by a member of staff in the area of study. Final results are given for the year as a whole.

Students will be graded as:
Third Class Honours (H3) 50%-64%
First Class Honours (H1) 85%-100%
Second Class Honours Division A (H2A) 75%-84%
Second Class Honours Division B (H2B) 65%-74%

Majors/Specialisation
- Industry and Community Studies
- Languages
- Media and Cultural Studies
- Psychology
- Social Science

Course subjects

Media Studies and Cultural Studies strand
For students who have majored in Asian studies, literature, media studies, philosophy and cultural inquiry or politics.

HAC440 Media and Cultural Studies Seminar A
HAC441 Media and Cultural Studies Seminar B
HAC442 Honours Thesis A (Media and Cultural Studies)
HAC443 Honours Thesis B (Media and Cultural Studies)

Industry and Community Studies strand
For students who have majored in Australian studies, media studies, politics or sociology.

HAI440 Industry and Community Studies Seminar A
HAI441 Industry and Community Studies Seminar B
HAI442 Honours Thesis A (Industry & Community Studies)
HAI443 Honours Thesis B (Industry & Community Studies)

Languages strand
For students who have majored in Italian or Japanese.

HAA440 Languages Seminar A (Italian)
HAA441 Languages Seminar B (Italian)
HAA442 Honours Thesis A (Italian)
HAA443 Honours Thesis B (Italian)
HAJ540 Languages Seminar A (Japanese)
HAJ541 Languages Seminar B (Japanese)
HAJ542 Honours Thesis A (Japanese)
HAJ543 Honours Thesis B (Japanese)

Psychology strand
For students who have majored in psychology.

HAY453 Advanced Quantitative Methods
HAY454 Psychological Assessment
HAY457 Ethics and Professional Issues
HAY459 Honours Thesis A (Psychology)
HAY460 Honours Thesis B (Psychology)

plus one elective chosen from:
HAY455 Applied Social Psychology
HAY458 Counselling Psychology
HET738 Neuropsychology Methods

Social Science strand
For students who have majored in media studies, Asian studies, Australian studies, politics or sociology.

HAF440 Social Science Seminar A
HAF441 Social Science Seminar B
HAF442 Honours Thesis A (Social Science)
HAF443 Honours Thesis B (Social Science)

Entry requirements
To be accepted for the honours degree, students must have completed all subjects necessary for a three year Bachelor of Arts degree and achieved a high academic standard overall with an excellent record in their major area of study, especially at third year level.
Application procedure
Students interested in the honours program should complete an application form available from the School of Social and Behavioural Sciences on +613 9214 5209 or email: sbsadmin@swin.edu.au or access the website: www.swin.edu.au/sbs/courses and submit it by Friday 8th November 2002. Selection will be made by the Honours Committee.

Further information
Contact the School of Social and Behavioural Sciences
Telephone: +61 3 9214 5209
Email: sbsadmin@swin.edu.au
Website: www.swin.edu.au/sbs/courses

National Institute of Circus Arts (NICA)

VISUAL and PERFORMING ARTS

DCA10 Bachelor of Circus Arts

The National Institute of Circus Arts (NICA) has been established as a centre of teaching excellence for professional training in the circus arts. The Bachelor of Circus Arts curriculum has been developed following extensive consultation with the circus and physical theatre industries. Circus is a global phenomenon and this is reflected in our trainers. Drawn from a variety of international and local backgrounds they bring a wealth of expertise and knowledge that they are eager to pass on to the next generation of circus performers.

Aims & Objectives
Skills developed during the course will include:
- Basic training: flexibility, strength, conditioning.
- Circus skills: aerial, acrobatics, manipulation, balance.
- Performance skills: improvisation, clown, character, movement, dance, voice, act creation.
- History and culture of circus.
- Circus business and career management.
- Health and safety in the circus environment.

Campus
Prahran

Career opportunities
Formal training in circus skills opens up exciting opportunities for a future career. Recent participants in our pilot projects have moved on to work with local and international companies eg. Cirque du Soleil, Legs on the Wall, Rock’n’Roll Circus, street festivals, and corporate work.

Professional recognition
The course is supported by the Circus Federation of Australia and the National Circus and Physical Theatre Association.

Course duration
Three years full-time. Part-time study will be considered on a case-by-case basis.

Structure
The training program is structured as a three-year vocational degree course, with exit points at Certificate IV (after successfully completing Year 1) and Diploma (after successfully completing Year 2) and Bachelor of Circus Arts (after successfully completing Year 3).

The Certificate IV in Circus Arts and the Diploma of Circus Arts, together with the five enhancement subjects, equal Years 1 and 2 of the Degree in Circus Arts and will be equivalent to 200 credit points.

To receive the Diploma of Circus Arts, students must complete all core modules of the Certificate IV and the Diploma including two of the four specialist skill modules.

Admission into Year 3 of the program is by articulation or advanced standing only. Students who have satisfactorily completed Years 1 and 2, that is the Diploma of Circus Arts plus the five enhancement subjects, will proceed into Year 3 of the degree.

Year 3 of the course will operate under a student workload model based on 100 credit points for a full-time academic year.

Majors/Specialisation
Not applicable.

Course subjects

Year 1 (Certificate IV)

Core modules
Anatomy and Physiology in Injury Prevention and Management
Basic First Aid
Cardiopulmonary Resuscitation
Communication in a Circus Workplace
Occupational Health & Safety and Security Procedures
Rigging 1
Conditioning through Basic Circus Skills 1
Dance and Movement 1
Introduction to Specialisation
Participation in Production 1
Performance Studies 1
Industry Based Practice 1

Enhancement modules
Critical Analysis 1
History of Circus

Year 2 (Diploma)
Core modules
Equipment
Make-up Application
Rigging 2
Voice Production
Conditioning Through Basic Circus Skills 2
Dance and Movement 2
Development and Presentation of an Act
Participation in Production 2
Performance Studies 2
Industry Based Practice 2

Select two of the following specialty skills:
Specialty Skills 1 – Advanced Ground Acrobatics, OR
Specialty Skills 2 – Advanced Acrobatics in Ground to Air Routines, OR
Specialty Skills 3 – Aerial Skills, OR
Specialty Skills 4 – Manipulation Skills, OR
Specialty Skills 5 – Comedy

Enhancement modules
Circus Culture Critical Analysis 2
Skills for Small Business

Year 3 (Degree)
Semester 1
HDCA301 Circus and Arts Business Management Theory
HDCA302 Pre-production and Planning

Semester 2
HDCA303 The Production

Entry requirements
Entry is available to creative, talented and physical young people with backgrounds in:
- Performing Arts
- Physical Theatre
- Youth Circus
- Dance
- Acrobatic sports
- Gymnastics
- Diving

Indigenous people are strongly encouraged to apply. For further information, contact Jacinta Fletcher, Swinburne's Indigenous recruitment and support officer on (03) 9214 5696.

Application procedure
Entry to the course is by selection. Prospective students must complete an application form, attend an audition and interview.

Auditions will be held in every capital city (except Canberra). Applicants are required to register for an audition. Details and application/audition registration forms can be obtained from the NICA website: http://nica.swin.edu.au/

Applicants who are unable to attend an audition due to geographical location may apply by sending a resume and a video demonstrating their skills.

Further information
Contact the National Institute of Circus Arts (NICA) on +61 3 9214 6975
Facsimile: +61 3 9214 6574
Email: nica@swin.edu.au
Website: http://nica.swin.edu.au/
Swinburne, Lilydale Division

APPLIED SCIENCE

L062 Bachelor of Applied Science
VTAC code: 35001 (F/T), 35211 (P/T), 35063 (Int. Fee)
2001 Clearly-in ENTER: 65.55

The Bachelor of Applied Science course allows students to participate in studies from a variety of disciplines at the Lilydale campus, which permits non-traditional and diverse combinations of subjects and studies. The liberal nature of the general Applied Science course enables students to undertake studies suited to their individual requirements. Students are encouraged to gain a thorough understanding of scientific method, critical and creative thinking, information technology and statistics.

A major study in computing, psychology or interactive multimedia provides the foundation for studies in other disciplines. The variety of disciplines at Lilydale allows students to diversify their studies in non-traditional areas such as accounting, marketing, media, or sociology. This variety incorporates a thorough grounding in aspects of theoretical and practical components of one major study, enabling skills in development, management, professional conduct and communication.

Campus
Lilydale

Career opportunities
A Computing major qualifies students for most entry level positions in the programming and information technology fields.

Psychology graduates may seek employment in the areas of human resources, social work, marketing, administration and research. Psychology graduates may also do further study in areas of professional psychology such as clinical, counselling, organisational and health and sports psychology.

An Interactive Multimedia major qualifies students for most entry level positions in multimedia development, web page development, online publishing for small businesses, and desktop publishing.

Professional recognition
The psychology major has accreditation from the Australian Psychological Society.

Course duration
Three years full-time or approximately six years part-time. An optional and additional year of Industry-based Learning (IBL) is also available to full-time students.

Structure
Students will be required to complete at least one of the following majors:

- Computing
- Interactive Multimedia
- Psychology

Refer to the Lilydale Specialisations section in this handbook for further details.

In addition, students will be able to undertake a combination of all of the majors and minors offered by the Swinburne Lilydale campus including:

- Accounting
- Economics
- HRM
- Information Systems
- Information Technology
- Management
- Marketing
- Sociology
- Tourism

Refer to the Lilydale Specialisations section in this handbook for further details.

Completion of the four core subjects offered by Swinburne Lilydale will also be a requirement of the course. A major comprises six subjects post Stage 1, and a minor comprises four subjects post Stage 1, in addition to the required Stage 1 core subjects.

Course subjects
Core subjects
L0101 Information Methods
LCL100 Learning and Communication Behaviour
LCR100 Statistics and Research Methods
LC7100 Science Technology and Society

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Consideration will be given to the full range of an applicant's VCE studies and results, to the level of performance in CATs, and to the student profile.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

BUSINESS

L055 Bachelor of Business
VTAC code: 35101 (F/T), 35211 (P/T), 35103 (Int. Fee)
2001 Clearly-in ENTER: 68.40

The Bachelor of Business provides students with skills and abilities pertinent to a variety of professional careers in the private and public sectors. Students are encouraged to develop a theoretical understanding of their chosen disciplines to enable them to understand current developments in society and the workplace, and to adapt and respond appropriately to future developments as they occur. In addition, the course is designed to enhance a number of generic skills highly valued by employers and important for the development of the individual such as self-awareness, presentation and communication skills, and skills for the maintenance of learning and knowledge.

The course offers a combination of breadth and specialisation: breadth as a foundation for lifelong learning and specialisation as a preparation for future professional and vocational pursuits. In the implementation of these principles attention is given to the process of learning and thinking involved, as well as course content. A student's choice of subject combinations may be expanded by allowing significant selections from other degree streams.

Aims & Objectives
The Bachelor of Business is planned to enable students to:

- Develop learning skills in an interdisciplinary environment.
- Communicate effectively in writing, orally and electronically.
- Experience a breadth of disciplinary studies and intellectual processes.
- Specialise in the field of their chosen profession.
- Study combinations of subjects leading to professional accreditation.
- Use technology in a way that supports learning and professional aspirations.
- Develop a regional and international outlook in relation to learning.
- Understand the cross-cultural issues of interdisciplinary study and team work.
- Articulate easily from previous tertiary study to complete a degree program.
- Develop the personal qualities and attitudes needed for professional success.

Campus
Lilydale
Career opportunities
Opportunities are available in a wide range of fields such as sales and marketing, tourism, accountancy, human resources, management and financial advice.

Course duration
Three years full-time or approximately six years part-time. An optional and additional year of Industry-based Learning (IBL) is also available.

Structure
Students undertake a total of twenty-four subjects, each of 12.5 credit points, consisting of core subjects, majors and minors. Students are required to complete at least four subjects at Stage 3 and no more than ten subjects at Stage 1. Satisfactory completion of the course will require the inclusion of either:

- One major and two minors, OR
- One major and one minor, OR
- Two majors.

At least one major must be taken from the business streams of:

- Accounting
- Economics
- Human Resource Management
- Information Systems
- Management
- Marketing

Refer to the Lilydale Specialisations section in this handbook for further details. In addition, students may select majors and minors from any other course offered by Swinburne Lilydale, such as:

- Computing
- Information Technology
- Interactive Multimedia
- Media
- Psychology
- Social Statistics
- Sociology
- Tourism

Refer to the Lilydale Specialisations section in this handbook for further details. Some combinations, for example both Psychology and Accounting with professional recognition, will not be possible within the twenty-four subject structure. A major consists of six subjects post Stage 1, with at least two subjects at Stage 3. For professional recognition in Psychology, students must take subjects as specified. A minor consists of four subjects post Stage 1 with at least one subject at Stage 3.

Students are required to complete four core subjects in the first year. These are:

- LC101 Information Methods
- LCL100 Learning and Communication Behaviour
- LCT100 Science, Technology and Society
- LCR100 Statistics and Research Methods

There are also core business subjects required for this course. Students are required to complete four of the following six core business subjects:

- LAF100 Information Systems Fundamentals
- LBC100 Accounting 1
- LBE100 Microeconomics
- LBM100 Marketing Concepts
- LBL100 Introduction to Commercial Law
- LTE200 Organisations and Management (taken in second year)

In addition, students must complete prerequisite subjects for chosen majors and minors. Please refer to the individual specialisations listed below for details of majors and minors.

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Consideration will be given to the full range of an applicant's VCE studies and results, to the level of performance in CATs, and to the student profile.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background. Such applicants must sit a Special Tertiary Admissions Test (STAT) after negotiating with VTAC.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact Swinburne Lilydale +61 3 9215 7000

L054 Bachelor of Business (Accounting)
VTAC code: 35021 (F/T), 35181 (P/T), 35023 (Int. Fee)
2001 Clearly-in ENTER: 68.1B

Accounting is the basic language of business. Business activities are recorded and analysed in financial terms using accounting systems, investors use financial statements to guide their actions, and managers utilise information from cost accounting systems to make decisions, price products, develop operating strategies and evaluate business performance.

Students wishing to undertake more intensive accounting studies than those included in an accounting major (generally six accounting units post Stage 1) or an accounting minor (generally four accounting units post Stage 1) should enrol in Bachelor of Business (Accounting) degree.

It is assumed that people enrolling in the Bachelor of Business (Accounting) degree will want to pursue a career as a fully qualified professional accountant. The Bachelor of Business (Accounting) degree at Lilydale has been accredited by both professional accounting bodies. Accordingly, students who successfully complete the degree will automatically become eligible to apply for membership of either CPA Australia or the Institute of Chartered Accountants in Australia.

Campus
Lilydale

Career opportunities
Major studies in accounting, combined with other appropriate business subjects, can lead to job opportunities working as a professional accountant in fields as diverse as auditing, liquidation, taxation, investment, finance, management accounting and information technology. Such opportunities are available both in Australia and overseas, and can be found within commerce and industry, public accounting firms and the public sector.

Professional recognition
Graduates are eligible to apply for membership of either CPA Australia or the Institute of Chartered Accountants in Australia.

Course duration
Three years full-time or approximately six years part-time. An optional and additional six months or year of Industry-based Learning (IBL) is also available.

Structure
The degree comprises 24 subjects, each of 12.5 credit points. Students are required to complete four Swinburne Lilydale core subjects together with fourteen other subjects needed to gain professional recognition. Students may be able to take minor course of study from other specialisations available at Lilydale campus.

Course subjects
(C) = Compulsory Lilydale core
(P) = Compulsory requirement for professional recognition
(E) = Recommended elective

Core subjects
- LC101 Information Methods (C,P)
- LCR100 Statistics and Research Methods (C,P)
- LCL100 Learning and Communication Behaviour (C)
- LCT100 Science Technology and Society (C)
Accounting subjects

Stage 1
LBC100 Accounting 1 (P)

Stage 2
LBC200 Computer Accounting Systems (P)
LBC201 Corporate Accounting (P)
LBC202 Management Accounting 1 (P)
LBC203 Computer Cost Accounting Systems (P)
LBC204 Financial Management 1 (P)

Stage 3
LBC300 Accounting Theory (P)
LBC301 Taxation (P)
LBC302 Auditing (P)
LBC303 Strategic Cost Management (E)
LBC304 Financial Management 2 (E)

Other subjects
LBE100 Microeconomics (P)
LBE200 Macroeconomics (P)
LBL100 Introduction to Commercial Law (P)
LBL200 Company Law (P)
LTE200 Organisations and Management (P)

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Consideration will be given to the full range of an applicant’s VCE studies and results, to the level of performance in CATs, and to the student profile. Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background. Applicants must sit a Special Tertiary Admissions Test (STAT) after negotiating with VTAC.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

LO53 Bachelor of Business (eCommerce)
VTAC code Lilydale: 35241 (HECS), 35243 (Int. Fee)
Prahran: 36011 (HECS), 36013 (Int. Fee)

New course for 2002
The Bachelor of Business in eCommerce addresses the needs of business people, and others, working in an environment influenced by the widespread application of new technologies. The program reflects a need for new business models and strategies to better cope with the complexity, paradoxes and new ways of thinking in a globally networked business environment.

Aims & Objectives
The course aims to provide graduates with:

- Strong general business knowledge of eCommerce.
- Competence in the underlying skill set required by eCommerce professionals working globally.
- Attitudes reflecting high level independent and team learning skills.
- Ability to think strategically.
- Information enabled with strong problem solving and advanced concept application skills.
- Well integrated understanding of eCommerce systems, processes, people and technology.
- Generic business, marketing and management skills, including their application in an eCommerce environment.
- Cross-cultural sensitivity, recognition of ethical issues and ethical business behaviour.
- Enthusiasm and understanding of entrepreneurship and its application in the business world.

Campus
Lilydale, Prahran.

Career opportunities
Dramatic shifts in managing new business relationships, transactions and technologies are generating strong demand for knowledge and skills in eCommerce. Businesses, non-profit and government organisations are all making transitions and are seeking human resources with the relevant knowledge, application capabilities and attitudes for successful performance in an eCommerce environment.

Professional recognition
Subsequent to course accreditation, application will be made through the Australian Computer Society framework and other professional organisations as appropriate (for example, the Australian Institute of Management).

Course duration
Three years full-time or equivalent part-time.

Structure
The first two years of the Bachelor’s degree incorporates TAFE components. The student workload over the first two years totals around 1220 hours (including both attendance and out-of-class study). Exit points are available after completing the first year with a Diploma of Business (eCommerce) and after completing second year, with an Advanced Diploma of Business (eCommerce).

The third year of the Bachelor’s degree draws upon the earlier years of study and strengthens the conceptual and theoretical frameworks applied. The student workload during the third year totals around 960 hours study time (including attendance and out-of-class study, individual or team).

Course subjects

Year 1 (Diploma)
LEB100 Accounting and Finance
LEB101 The Marketing Concept
LEB102 eCommerce Management 1
LEB103 Computing/Multimedia 1
LEB104 Communication
LEB105 eCommerce Fundamentals
LEB106 Business Law
LEB108 Cultural Diversity and Ethics for eCommerce Professional Practice
LEB107 Issues in eCommerce 1

Year 2 (Advanced Diploma)
LEB200 Economics and Finance
LEB201 eMarketing and CRM
LEB202 eCommerce Management 2
LEB203 Computing/Multimedia 2
LEB204 eCommerce Management 3
LEB205 Issues in eCommerce 2
LEB206 eCommerce Project
LEB207 Social and Sustainability Issues for Professional Practice

Year 3 (Degree)
LEB300 Managing the Transition to eBusiness
LEB301 Information Methods and Technical Communication
LEB302 Business Information Systems and Technology for Managers
LEB303 eCommerce Due Diligence, Negotiations, Deals & Mergers: Lab 1
LEB304 Entrepreneurship and Innovation for Competitive Advantage: Lab 2
LEB305 Managing Strategic Cost and eCommerce Performance: Lab 3
LEB306 eCommerce Product Management

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LEB307 Managing People in an eCommerce Environment

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any).

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

L056 Bachelor of Business (Tourism and Management)
VTAC code: 35031(F/T), 35521(P/T), 35033 (Int. Fee)
2001 Clearly-in ENTER: 63.60

The Bachelor of Business (Tourism and Management) course is designed to prepare graduates for self-employment or professional careers in public and private sector organisations concerned with tourism. The core subjects provide the knowledge and basic skills required in the broad business environment, while the management stream extends and reinforces these foundations as they apply in the operation of small and medium sized organisations.

The tourism stream provides a more industry-specific focus for the understandings provided in the business subjects, and uses an interdisciplinary approach which views tourism as a form of human behaviour as well as a business interest. All subjects will encourage the development of important generic skills in presentation, problem-solving, communication and lifelong learning.

Throughout the course, students will also be encouraged to develop appropriate attitudes with respect to conservation of the natural and cultural environments.

Aims & Objectives
The course has the following objectives:

- To provide students with a strong, interdisciplinary knowledge base in such business-related areas as accounting, financial management, marketing, human resource management and enterprise management.
- To develop understanding of the nature, history and culture of tourism, and of the key role of communications in enhancing management of tourism organisations and destination regions.
- To develop awareness of and commitment to the principles of sustainability in enterprise management.
- To equip graduates with the skills and knowledge required for successful management of small to medium-sized enterprises, especially those involved with tourism.

Campus
Lilydale

Career opportunities
Tourism is a rapidly growing area of the Australian economy. While a high percentage of the positions offered are relatively unskilled, part-time and casual, there is recognition in the industry of the need for professionally qualified managers in whom business expertise is combined with an understanding of tourism.

Graduates of this course may find employment in the wide range of tourism enterprises eg. attractions, transport and tour services, in other enterprises where tourists are involved eg. museums and national parks, and in administrative or coordinating organisations such as regional tourism authorities. They will also be equipped to develop and run their own businesses in the tourism field.

Professional recognition
Although no formal professional recognition is either necessary or applicable to this degree the tourism discipline is affiliated to the Council for Australian University Tourism and Hospitality and Tourism Education. Such affiliation is increasingly being recognised as a benchmark for graduate quality.

Course duration
Three years full-time or approximately six years part-time. An optional and additional year of Industry-based Learning (IBL) is also available.

Structure
The degree consists of 24 subjects, each of 12.5 credit points, including core subjects, majors, minors and electives. Students are required to complete at least four subjects at Stage 3 and no more than ten subjects at Stage 1.

A major consists of six subjects post Stage 1 in an appropriate discipline, with at least two subjects at Stage 3. For professional recognition in Accounting or Marketing, students must take subjects as specified.

A minor consists of four subjects post Stage 1 in an appropriate discipline, with at least one subject at Stage 3.

Satisfactory completion of the course will require the inclusion of either:

- A major in Tourism and a major in Management; or
- A major in Tourism and a minor in Management; or
- A major in Management and a minor in Tourism

Given the above structure, students may be able to select one additional minor outside Tourism or Management, within this degree. In determining subjects for chosen majors and minors students must be mindful of any prerequisites that exist.

Additional Business minors which are available with this course:

- Accounting minor
- Marketing minor

Refer to the Lilydale Majors/Minors section in this handbook for further details.

Course subjects

Core subjects
LCL100 Information Methods
LCL101 Learning and Communication Behaviour
LCT100 Science, Technology and Society
LCR100 Statistics and Research Methods

In addition, the following business subjects are required for this course:
LBC101 Accounting Fundamentals*
LBM100 Marketing Concepts
LBM201 Marketing Behaviour (required for Tourism Major)
LBM203 Introduction to Commercial Law
LBM204 Financial Management 1 (required for Management Major)

* Students undertaking the Accounting minor, must undertake LBC100 - Accounting 1 instead.

Elective subjects
Students have the opportunity to undertake a number of elective subjects which are directly relevant to this degree, these include:

LBC101 Accounting Fundamentals
LBC102 Marketing Concepts
LBC103 Financial Management 1 (required for Management Major)
LBM201 Marketing Behaviour (required for Tourism Major)
LBM203 Introduction to Commercial Law
LBM204 Financial Management 1 (required for Management Major)

Tourism Major

Stage 1
LTT100 Introduction to Tourism
LTT201 Tourism Destination Management
LTT202 Tourism Enterprise Development
LTT203 Tourism Services
LTT204 Regional Issues in Tourism

Stage 2
LTT300 Tourism Channels and Travel Management
LTT302 Planning and Management in Eco-tourism

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Further information
Contact Swinburne Lilydale +61 3 9215 7000

COMPUTING and INFORMATION TECHNOLOGY

L061 Bachelor of Applied Science (Information Technology)
VTAC code: 35011 (F/T), 35191 (P/T), 35013 (Int. Fee)
2001 Clearly-in ENTER: 63.80

The Information Technology major and Computing co-minor cover the essential material for entry to a professional career in information technology: programming, systems analysis and design, database, computer networks and project management. It also includes the opportunity of studies in the important areas of information systems and multimedia, as well as subjects which consider the social, legal and ethical implications of computing.

There is an emphasis on team project work throughout the degree, which enables students to develop the technical and communication skills necessary to ensure that they are of immediate benefit to employers after completing the course. Some projects involve the development of small systems for clients external to the University.

This course will be offered in a flexible learning format. By using computers, students will increasingly undertake parts of their study independently. The computer will be a means of instruction, communication and computation that can be used at home, on campus or at one of the University’s study centres.

Students are encouraged to provide their own desktop or notebook PC-compatible computer, together with a modem for communication to the University’s machines and the Internet, from their homes. This will lead to a reduction in the time spent in formal instruction on campus.

Aims & Objectives
The Bachelor of Applied Science (Information Technology) course:

- Provides a coherent, broad-based coverage of the disciplines in information technology.
- Provides a coherent coverage of a major or minor complementary study (e.g. accounting, marketing, media studies, psychology, sociology).
- Prepares students for entry into the information technology and computing profession and equally, for those who choose, into the postgraduate field of information technology.
- Provides an environment in which students are exposed to the ethical and societal issues associated with the profession.
- Prepares students to apply their knowledge to specific constrained problems and to produce solutions, especially working in team environments on projects. These statements accord with the goals set by the IEEE Computer Society, and the Australian Computer Society.

Campus
Lilydale

Career opportunities
After successfully completing the course, students will have qualified for most entry level positions in the information technology field. Opportunities abound in areas such as software development, systems analysis and design, database development, systems administration and computer network administration. There are increasing opportunities for trained professionals in both the government and private sectors.

Professional recognition
This course is recognised by the Australian Computer Society as a Professional Level course (provisional). Graduates are eligible for associate membership. After four years of relevant experience, a graduate can apply for full membership.

Course duration
Three years full-time or approximately six years part-time. An optional and additional year of Industry Based Learning (IBL) is also available to full-time students.

Structure
Students undertake a total of twenty-four subjects, each of 12.5 credit points, consisting of core subjects, majors and minors. Students are required to complete at least four subjects at Stage 3 and no more than ten subjects at Stage 1. A major consists of six subjects post Stage 1 with at least two subjects at Stage 3. For professional accreditation in Information Technology students must take subjects...
as specified. A minor comprises four subjects post Stage 1 with at least one subject at Stage 3.

For students enrolled prior to 1999, satisfactory completion of the course will require the completion of the Information Technology major and Computing co-minor plus one of the following:

- One other minor, OR
- One other major.

For students who commenced their studies in 1999 and later, satisfactory completion of the course will require the completion of either:

- Information Technology major and Information Systems co-major, OR
- Information Technology major and Computing co-minor.

Students are required to complete the four Stage 1 core subjects:

- LAC100 Computing Fundamentals
- LCL100 Learning and Communication Behaviour
- LCR100 Statistics and Research Methods
- LCT100 Science Technology and Society

Majors are offered in:

- Information Systems
- Information Technology

Refer to the Lilydale Specialisations section in this handbook for further details.

Minors are offered in:

- Information Systems
- Computing
- Business Computing and eBusiness
- Interactive Multimedia Development

Refer to the Lilydale Specialisations section in this handbook for further details.

Entry requirements

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Consideration will be given to the full range of an applicant's VCE studies and results, to the level of performance in CATs, and to the student profile.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information

Contact Swinburne Lilydale on +61 3 9215 7000

LO64 Bachelor of Technology (Information Systems)

VTAC code: To be advised

New course for 2002

The Bachelor of Technology (Information Systems) provides a learning experience for individuals seeking entry to the management and development of modern information solutions for enterprise. Students will experience the vitality of information provision and supporting technologies for business and community enterprises. An emphasis is on the effective use of information and IT within an organisation and the development of systems for solving business problems.

There is an emphasis on team project work throughout the degree, which enables students to develop the technical and communication skills necessary to ensure that they are of immediate benefit to employers after completing the course. Some projects involve the development of small systems for clients external to the University.

This course will be offered in a flexible learning format. By using computers, students will increasingly undertake parts of their study independently. The computer will be a means of instruction, communication and computation that can be used at home, on campus or at one of the University's study centres.

Students are encouraged to provide their own desktop or notebook PC-compatible computer, together with a modem for communication to the University's machines and the Internet, from their homes. This will lead to a reduction in the time spent in formal instruction on campus.

Campus

Lilydale

Career opportunities

The Information Systems major can lead to career opportunities within the scope of the management of information technology implementations, and the design and analysis of IT solutions.

Professional recognition

Application will be made to the Australian Computing Society for professional accreditation where appropriate.

Course duration

Three years full-time or six years part-time. An additional period of Industry-based Learning (IBL), for either 6 or 12 months, may be undertaken by full-time students on a competitive basis, after the completion of their second year, provided they achieve the required standards.

Structure

The degree consists of a total of 24 subjects, or 300 credit points, including core subjects, majors, minors and electives. Students are required to complete at least four subjects at Stage 3 and no more than ten subjects at Stage 1.

Satisfactory completion of the course will require the inclusion of the Information Systems Core major and Information Systems co-minor. A major consists of six subjects post Stage 1, with at least two subjects at Stage 3.

A minor consists of four subjects post Stage 1, with at least one subject at Stage 3, except in the case of Psychology.

In addition, students may select major and/or minor studies from any other discipline, offered by Swinburne University of Technology, Lilydale.

Course subjects

Lilydale Core Subjects

Students are required to complete the four Lilydale core subjects:

- LAC100 Computing Fundamentals
- LCL100 Learning and Communication Behaviour
- LCT100 Science, Technology and Society
- LCR100 Statistics and Research Methods

Students are also required to complete at least three of the following four subjects:

- LAC100 Computing Fundamentals
- LAI100 Information Systems Fundamentals
- LAS100 Software and Multimedia Concepts
- LSM100 Texts and Contexts

Information Systems Core Major and Core Co-minor

Stage 1

- LAI100 Information Systems Fundamentals
- LAS100 Software and Multimedia Concepts

Stage 2

- LAI230 Management Support Systems
- LAI280 Human-Computer Interaction
- LAI210 Database Concepts and Modelling

Plus one Stage 2 or 3 Information Technology, Systems and Multimedia Discipline subject.

Stage 3

- LAI350 eCommerce and Business Computing Applications
- LAS310 IT Strategies and Project Management

Information Systems Co-minor

Stage 1

- LSM100 Texts and Contexts
- LAC100 Computing Fundamentals
Stage 2
LAM270 Multimedia Tools and Concepts
LA240 Electronic Communications and Applications

Plus one Stage 2 or 3 Information Technology, Systems and Multimedia Discipline subject. (LAC200 Programming or LA200 Systems Analysis and Design are recommended.)

Stage 3
LA100 Professional Reading & Writing in Technology and Culture, OR
LA320 Database Management Systems, OR
LAC300 IT Professional and Ethical Issues

Entry requirements

Standard Entry
For entry into the Degree level of the course applicants should have successfully completed an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification, or a Certificate IV credit, or a Diploma, or equivalent. Consideration will be given to the full range of an applicant's studies and results, and to the student profile.

Special Entry
Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

Articulation arrangements
This program will allow for smooth, well defined articulation to occur between Swinburne TAFE and Higher Education and vice versa.

Application procedure
Applications should be made directly to Swinburne Lilydale.

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

LO63 Bachelor of Technology (Information Technology & Software Engineering)

VTAC code: To be advised
New course for 2002

The Bachelor of Technology (Information Technology & Software Engineering) provides a learning experience for individuals seeking entry to the IT industry, particularly careers in programming, systems analysis and design computing and project management.

There is an emphasis on team project work throughout the degree, which enables students to develop the technical and communication skills necessary to ensure that they are of immediate benefit to employers after completing the course. Some projects involve the development of small systems for clients external to the University.

This course will be offered in a flexible learning format. By using computers, students will increasingly undertake parts of their study independently. The computer will be a means of instruction, communication and computation that can be used at home, on campus or at one of the University's study centres.

Students are encouraged to provide their own desktop or notebook PC-compatible computer, together with a modem for communication to the University's machines and the Internet, from their homes. This will lead to a reduction in the time spent in formal instruction on campus.

Campus
Lilydale

Professional recognition
Application will be made to the Australian Computing Society for professional accreditation where appropriate.

Course duration
Three years full-time or six years part-time. An additional period of Industry-based Learning (IBL), for either 6 or 12 months, may be undertaken by full-time students on a competitive basis, after the completion of their second year, provided they achieve the required standards.

Structure
The degree consists of a total of 24 subjects, or 300 credit points, including core subjects, majors, minors and electives. Students are required to complete at least four subjects at Stage 3 and no more than ten subjects at Stage 1.

Satisfactory completion of the course will require the inclusion of the Information Technology Core-major and Software Engineering Co-minor. A major consists of six subjects post Stage 1, with at least two subjects at Stage 3.

A minor consists of four subjects post Stage 1, with at least one subject at Stage 3, except in the case of Psychology.

In addition, students may select major and/or minor studies from any other discipline, offered by Swinburne University of Technology, Lilydale.

Course subjects

Core Subjects
Students are required to complete the four Lilydale core subjects:
LCT100 Information Methods
LCL100 Learning and Communication Behaviour
LCT100 Science, Technology and Society
LCR100 Statistics and Research Methods

Students are also required to complete at least three of the following four subjects:
LAC100 Computing Fundamentals
LA1100 Information Systems Fundamentals
LAS100 Software and Multimedia Concepts
LSM100 Texts and Contexts

Information Technology Core major and Core Co-minor

Stage 1
LAC100 Computing Fundamentals
LAS100 Software and Multimedia Concepts

Stage 2
LAC200 Programming
LAC220 Systems Programming and Architectures
LA210 Database Concepts and Modelling
LAS200 Systems Analysis and Design

Stage 3
LAC300 IT Professional and Ethical Issues
LAS310 IT Strategies and Project Management

Software Engineering Co-minor

Stage 2
LA240 Electronic Communications and Applications
LA260 Human-Computer Interaction

Stage 3
LAC220 Advanced Programming and Systems Project (25pts)

Entry requirements

This degree proposes a multi-entry, multi-exit course structure (see below).

Standard Entry
For entry into the Degree level of the course applicants should have successfully completed an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification, or a Certificate IV credit, or a Diploma, or equivalent. Consideration will be given to the full range of an applicant's studies and results, and to the student profile.

Special Entry
Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

Articulation arrangements
This program will allow for smooth, well defined articulation to occur between Swinburne TAFE and Higher Education and vice versa.

Application procedure
Applications should be made directly to Swinburne Lilydale.
Students are also required to complete at least three of the following four discipline, offered by Swinburne University of Technology, Lilydale.

In addition, students may select major and/or minor studies from any other except in the case of Psychology.

consists of six subjects post Stage 1, with at least two subjects at Stage 3.

Multimedia Core-major and eCulture and Communication Co-minor. A major consists of six subjects post Stage 1, with at least two subjects at Stage 3.

There is an emphasis on team project work throughout the degree, which enables students to develop the technical and communication skills necessary to ensure that they are of immediate benefit to employers after completing the course. Some projects involve the development of small systems for clients external to the University.

This course will be offered in a flexible learning format. By using computers, students will increasingly undertake parts of their study independently. The computer will be a means of instruction, communication and computation that can be used at home, on campus or at one of the University’s study centres.

Students are encouraged to provide their own desktop or notebook PC-compatible computer, together with a modem for communication to the University’s machines and the Internet, from their homes. This will lead to a reduction in the time spent in formal instruction on campus.

L059 Bachelor of Technology (Interactive Multimedia)

The Bachelor of Technology (Interactive Multimedia) is an expression of recent integration of information technologies, telecommunications and multimedia concepts. As we begin the new millennium, interactive multimedia is becoming a dominant mode of delivering information and entertainment and is increasingly being used by business, government and educational institutions to create, promote and sell products and to provide graphic information about services.

There is an emphasis on team project work throughout the degree, which enables students to develop the technical and communication skills necessary to ensure that they are of immediate benefit to employers after completing the course. Some projects involve the development of small systems for clients external to the University.

This course will be offered in a flexible learning format. By using computers, students will increasingly undertake parts of their study independently. The computer will be a means of instruction, communication and computation that can be used at home, on campus or at one of the University’s study centres.

Students are encouraged to provide their own desktop or notebook PC-compatible computer, together with a modem for communication to the University’s machines and the Internet, from their homes. This will lead to a reduction in the time spent in formal instruction on campus.

Campus

Lilydale

Career opportunities

This course will lead to employment in the interactive multimedia industry, or in industries which are making increasing use of interactive multimedia products for a variety of purposes, such as tourism and training management.

Professional recognition

Application will be made to the Australian Computing Society for professional accreditation where appropriate.

Course duration

Three years full-time or six years part-time. An additional period of Industry-based Learning (IBL), for either 6 or 12 months, may be undertaken by full-time students on a competitive basis, after the completion of their second year, provided they achieve the required standards.

Structure

The degree consists of a total of 24 subjects, or 300 credit points, including core subjects, majors, minors and electives. Students are required to complete at least four subjects at Stage 3 and no more than ten subjects at Stage 1.

Satisfactory completion of the course will require the inclusion of the Interactive Multimedia Core-major and eCulture and Communication Co-minor. A major consists of six subjects post Stage 1, with at least two subjects at Stage 3.

A minor consists of four subjects post Stage 1 with at least one subject at Stage 3, except in the case of Psychology.

In addition, students may select major and/or minor studies from any other discipline, offered by Swinburne University of Technology, Lilydale.

Course subjects

LAI100 Information Methods
LAI100 Learning and Communication Behaviour
LCT100 Science, Technology and Society
LO100 Statistics and Research Methods

Students are also required to complete at least three of the following four subjects:

LAC100 Computing Fundamentals
LAI100 Information Systems Fundamentals
LAS100 Software and Multimedia Concepts
LSM100 Texts and Contexts

Interactive Multimedia Core Major and Core Co-minor

Stage 1

LAS100 Software and Multimedia Concepts
LSM100 Texts and Contexts

Stage 2

LAM270 Multimedia Tools and Concepts
LAM290 Multimedia and Web Design
LAC200 Programming (JavaScript & HTML)
LAC280 Human-Computer Interaction

Stage 3

LAM300 IMM Production and Project (25 credit points)

eCulture and Communication Co-minor

Stage 1

LAC100 Computing Fundamentals

Stage 2

LSM203 New Media
LAC240 Electronic Communications and Applications

Plus one Stage 2 or 3 Information Technology, Systems and Multimedia Discipline or Media Studies Discipline subject.

Stage 3

LAC300 IT Professional and Ethical Issues

Entry requirements

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification, or a Certificate IV credit, or a Diploma, or equivalent. Consideration will be given to the full range of an applicant’s studies and results, and to the student profile.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

Application procedure

Applications should be made to Swinburne Lilydale

Further information

Contact Swinburne Lilydale on +61 3 9215 7000

SOCIAL SCIENCE

L050 Bachelor of Social Science

VTAC code: 35201 (F/T), 35151 (P/T), 35203 (Int. Fee)

2001 Clearly-in ENTER: 57.70

The Bachelor of Social Science provides students with skills and abilities pertinent to a variety of professional careers in the public and private sectors of employment. Students are encouraged to develop a theoretical insight of their chosen disciplines to enable them to understand not only current developments in society and the workplace, but also to adapt and respond appropriately to future developments as they occur. In addition, the course is designed to enhance a number of generic skills highly valued by employers and important for the development of the individual, such as self-awareness, presentation and communication skills, and skills for the maintenance of learning and knowledge.

This course offers a combination of breadth and specialisation: breadth as a foundation for lifelong learning and specialisation as a preparation for future professional and vocational pursuits. In the implementation of these principles attention will be given to the process of learning and thinking involved as well as the content. A student’s choice of subject combinations will be expanded by allowing significant selections across other degree streams.

An honours year is available to students with a minimum of credit average.
Aims & Objectives

The Bachelor of Social Science is planned to enable students to:

- Develop learning skills in an interdisciplinary environment.
- Communicate effectively in writing, orally and electronically.
- Experience breadth of disciplinary studies and intellectual processes.
- Specialise in the field of their chosen profession.
- Study combinations of subjects leading to professional accreditation.
- Use technology in a way that supports learning and vocational aspirations.
- Develop a regional and international outlook in relation to learning.
- Understand the cross-cultural issues of interdisciplinary study and teams.
- Articulate easily from previous tertiary study to complete a degree program.
- Develop the personal qualities and attitudes needed for professional success.
- Identify and understand the fundamental values that inform critical issues and decision making.

Campus

Lilydale

Career opportunities

The Sociology major, combined with appropriate subjects, can lead to career opportunities in a diverse range of fields. For example, graduates often work in areas of social research, administration, policy and planning, welfare, community development, human resources, policy and program evaluation and marketing, as well as many other sectors of society.

The Psychology major, combined with appropriate subjects, can lead to career opportunities in a range of organisations to work as human resource managers, marketing and advertising personnel, information processing professionals, educational psychologists and research officers. Further studies in areas of professional psychology such as clinical, counselling, organisational, forensic, developmental, health, human factors and sports psychology can lead to a wide range of career opportunities.

Media graduates find career opportunities in a range of journalism, radio, public relations or communications research.

Professional recognition

The Psychology program is accredited by the Australian Psychological Society (APS).

Course duration

Three years full-time or approximately six years part-time.

Structure

Students undertake a total of twenty-four subjects each of 12.5 credit points, consisting of core subjects, majors and minors. Students are required to complete at least four subjects at Stage 3 and no more than ten subjects at Stage 1. Satisfactory completion of the course will require the inclusion of either:

- One major and two minors, OR
- One major and one minor, OR
- Two majors.

At least one major must be taken from either:

- eCulture and Media Studies,
- Psychology, OR
- Sociology.

Refer to the Lilydale Specialisations section in this handbook for further details. In addition students may select majors in:

- Accounting
- Computing
- Economics
- Human Resource Management
- Information Systems
- Information Technology
- Interactive Multimedia
- Management
- Marketing
- Tourism

Refer to the Lilydale Specialisations section in this handbook for further details. Some combinations, for example both psychology and accounting with professional recognition, will not be possible in the 24 unit structure. Minors are offered in:

- Accounting
- Business Computing and eBusiness
- Economics
- Economics/Finance
- eCulture and Media Studies
- Human Resource Management
- Information Systems
- Information Technology
- Management
- Marketing
- Psychology
- Social Statistics
- Sociology
- Tourism

Refer to the Lilydale Specialisations section in this handbook for further details. A major consists of six subjects post Stage 1, with at least two subjects at Stage 3. For professional recognition in Accounting or Psychology, students must take subjects as specified. A minor comprises four subjects post Stage 1 with at least one subject at Stage 3. Students are required to complete four core subjects in first year. Some combinations of majors may require a variation to these requirements. In addition students must complete prerequisite subjects for chosen majors and minors.

Course subjects

The four core subjects are:

- LCL100 Learning and Communication Behaviour
- LCT100 Science, Technology and Society
- LCR100 Statistics and Research Methods
- LCI101 Information Methods

Entry requirements

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Consideration will be given to the full range of an applicant's VCE studies and results, to the level of performance in CATs, and to the student profile.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information

Contact Swinburne Lilydale on +61 3 9215 7000
DOUBLE DEGREES

L068 Bachelor of Applied Science/ Bachelor of Social Science
VTAC code: 35061 (F/T), 35061 (P/T), 35063 (Int. Fee)
2001 Clearly-in ENTER: Individual Offer

In today’s competitive environment, there is an increasing demand by employers for graduates with flexibility and expertise beyond the limits of a narrow vocational orientation, and the ability to apply problem-solving skills over a range of areas. This double degree course prepares students for employment or self-employment in the rapidly changing cultural, technological and business environments.

Throughout the Social Science stream, students are encouraged to develop skills in investigation and enquiry which may be applies to a range of situations. Social Science students learn how to gather, synthesise and assess information, how to conceptualise issues, and to express themselves effectively both orally and in writing. The Applied Science stream encourages students to gain a thorough understanding of scientific method, critical and creative thinking, information technology and statistics.

Campus
Lilydale

Career opportunities
The wide scope of available specialisations within the double degree allows for a diverse range of career opportunities. Such opportunities are available both in Australia and overseas, and can be found within commerce and industry, and the public sector. A sample of the various areas of employment include: enterprise marketing to small/medium sized business management, entry level positions in the programming and information technology fields, human resources, social work, administration and research, entry level positions in multimedia development, web page development and online publishing, market research, advertising, public relations, and financial advice.

Professional recognition
Accounting graduates are eligible to apply for membership of either the Australian Society of Certified Practising Accountants or the Institute of Chartered Accountants in Australia. The Psychology program is accredited by the Australian Psychological Society (APS) and the Information Technology specialisation is recognised by the Australian Computer Society as a Professional Level course (provisional). Graduates are eligible for associate membership. After four years of relevant experience, a graduate can apply for full membership. Students seeking professional recognition may not be able to complete a double degree without undertaking extra subjects.

Course duration
Four years full-time or approximately eight years part-time. An optional and additional year of Industry-based Learning (IBL) is also available to full-time students. Students may accelerate progress by undertaking some subjects during the summer semester.

Structure
To complete the double degree, students need to successfully complete 32 subjects consisting of core subjects, other compulsory subjects, and one of the following combinations:

- Two majors and two minors, OR
- Three majors and one minor, OR
- Four majors, and electives.

Core subjects
LCT101 Information Methods
LCT100 Learning and Communications Behaviour
LCT200 Science, Technology and Society
LCR100 Statistics and Research Methods

Majors/Minors
- Applied Science major (at least one major listed below)
- Information Technology (8 subjects for major/5 subjects for minor)
- Computing (8 subjects)

- Interactive Multimedia (8 subjects)
- Psychology (11 subjects)
- Social Science major (at least one)
- Media Studies (7 subjects)
- Sociology (7 subjects)
- Economics (6 post stage 1 subjects for major/4 post Stage 1 subjects for minor)
- Information Systems (7 subjects for major/5 subjects for minor)
- Economics/Finance (minor only, 5 subjects including LBE100)
- Tourism (6 subjects for major/4 subjects for minor)
- Management (6 subjects for major/4 subjects for minor)
- Human Resource Management (6 subjects for major/4 subjects for minor)
- Social Statistics (minor only, 4 subjects)
- Computing (minor only, 5 subjects)
- Business Computing and eBusiness (minor only, 5 subjects)
- Interactive Multimedia (8 subjects for major/5 subjects for minor)
- Information Technology (8 subjects for major/5 subjects for minor)
- Electives as required.

Refer to the Lilydale Specialisations section in this handbook for further details. Students must ensure that they complete at least 10 and no more than 12 first stage subjects, and at least 6 third stage subjects. Students wishing to obtain professional recognition in Accounting must ensure requirements are met. Students wishing to obtain professional recognition in Psychology must ensure requirements are met.

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Consideration will be given to the full range of an applicant’s VCE studies and results, to the level of performance in CATs, and to the student profile.

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Application procedure
Students wishing to obtain professional recognition in Psychology must ensure requirements are met.

Contact Swinburne Lilydale on +61 3 9215 7000

L066 Bachelor of Business/ Bachelor of Applied Science
VTAC code: 35121 (F/T), 35131 (P/T), 35123 (Int. Fee)
2001 Clearly-in ENTER: Individual Offer

In today’s competitive environment, there is an increasing demand by employers for graduates with flexibility and expertise beyond the limits of a narrow vocational orientation, and the ability to apply problem-solving skills over a range of areas. This double degree course prepares students for employment or self-employment in the rapidly changing cultural, technological and business environments.

Throughout the Applied Science stream, students are encouraged to gain a thorough understanding of scientific method, critical and creative thinking and information technology. The Bachelor of Business course introduces the world of business through a range of compulsory core subjects and allows specialisation in a number of streams. The double degree course is designed to enhance a number of important generic skills which employers value, such as self-awareness, presentation and communication skills, and skills for the maintenance of life-long learning.
Aims & Objectives
The course aims to provide students with broad experience in both business and applied science disciplines.

Campus
Lilydale

Career opportunities
The wide scope of available specialisations within the double degree allows for a diverse range of career opportunities. Such opportunities are available both in Australia and overseas, and can be found within commerce and industry, and the public sector. A sample of the various areas of employment include: enterprise marketing to small/medium sized business management, entry level positions in the programming and information technology fields, human resources, social work, administration and research, entry level positions in multimedia development, web page development and online publishing, market research, advertising, public relations, and financial advice.

Professional recognition
Accounting graduates are eligible to apply for membership of either the Australian Society of Certified Practising Accountants or the Institute of Chartered Accountants in Australia. The Psychology program is accredited by the Australian Psychological Society (APS), and the Information Technology specialisation is recognised by the Australian Computer Society as a Professional Level course (provisional). Graduates are eligible for associate membership. After four years of relevant experience, a graduate can apply for full membership. Students seeking professional recognition may not be able to complete a double degree without undertaking extra subjects.

Course duration
Four years full-time or approximately eight years part-time. An optional and additional year of Industry-based Learning (IBL) is also available to full-time students. Students may accelerate progress by undertaking some subjects during the summer semester.

Structure
To complete the double degree, students need to successfully complete 32 subjects consisting of core subjects, other compulsory subjects, and one of the following combinations:

- Two majors and two minors.
- Three majors and one minor.
- Four majors and electives.

Core subjects
- LCT101 Information Methods
- LCL100 Learning and Communications Behaviour
- LCT100 Science, Technology and Society
- LOR100 Statistics and Research Methods

Core Business subjects (4 from 5)
- LBC100 Accounting 1
- LBE100 Microeconomics
- LBM100 Marketing Concepts
- LBL 100 Introduction to Commercial Law
- LTE200 Organisations and Management

Majors/Minors
- Business major (at least one of those listed below)
- Accounting (6 post Stage 1 subjects)
- Marketing (6 post Stage 1 subjects)
- Economics (6 post Stage 1 subjects)
- Human Resource Management (6 subjects, including LTE200)
- Management (6 subjects, including LTE200)
- Information Systems (7 subjects)
- Applied Science major (at least one of those listed below)
- Information Technology (8 subjects for major/5 subjects for minor)
- Computing (8 subjects)

- Interactive Multimedia (8 subjects)
- Psychology (11 subjects)

Refer to the Lilydale Specialisations section in this handbook for further details.

One or two additional majors and/or minors from the above plus:
- Sociology (7 subjects for major/5 subjects for minor)
- Media Studies (7 subjects for major/6 subjects for minor)
- Economics (6 subjects post Stage 1 for major/4 subjects post Stage 1 for minor)
- Information Systems (7 subjects for major/5 subjects for minor)
- Economics/Finance (minor only, 5 subjects including LTE100)
- Tourism (6 subjects for major/4 subjects for minor)
- Management 6 subjects for major/4 subjects for minor
- Human Resource Management 6 subjects for major/4 subjects for minor
- Social Statistics (minor only, 4 subjects)
- Computing (minor only, 5 subjects)
- Business Computing and eBusiness (minor only, 5 subjects)
- Interactive Multimedia (8 subjects for major/5 subjects for minor)
- Information Technology (8 subjects for major/5 subjects for minor)
- Electives as required.

Refer to the Lilydale Specialisations section in this handbook for further details.

Students must ensure that they complete at least 10 and no more than 12 first stage subjects, and at least 6 third stage subjects. Students wishing to obtain professional recognition in Accounting must ensure requirements are met. Students wishing to obtain professional recognition in Psychology must ensure requirements are met.

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Consideration will be given to the full range of an applicant's VCE studies and results, to the level of performance in CATs, and to the student profile.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

L067 Bachelor of Business/
Bachelor of Social Science
VTAC code: 35141 (F/T), 35231 (P/T), 35143 (Int. Fee)
2001 Clearly-in ENTER: Individual Offer

In today's competitive environment, there is an increasing demand by employers for graduates with flexibility and expertise beyond the limits of a narrow vocational orientation, and the ability to apply problem-solving skills over a range of areas. This double degree course prepares students for employment or self-employment in the rapidly changing cultural, technological and business environments.

Throughout the Social Science stream, students are encouraged to develop skills in investigation and enquiry which may be applied to a range of situations. Social Science students learn how to gather, synthesise and assess information, how to conceptualise issues, and to express themselves effectively both orally and in writing. The Bachelor of Business course introduces the world of business through a range of compulsory core subjects and allows specialisation in a number of streams. The double degree course is designed to enhance a number of important generic skills which employers value, such as self-awareness, presentation and communication skills, and skills for the maintenance of life-long learning.

Aims & Objectives
The course aims to provide students with a broad experience in both business and social science disciplines.
Campus
Lilydale

Career opportunities
The wide scope of available specialisations within the double degree allows for a diverse range of career opportunities. Such opportunities are available both in Australia and overseas, and can be found within commerce and industry, and the public sector. A sample of the various areas of employment include: enterprise marketing to small/medium sized business management, entry level positions in the programming and information technology fields, human resources, social work, administration and research, entry level positions in multimedia development, web page development and on-line publishing, market research, advertising, public relations, and financial advice.

Professional recognition
Accounting graduates are eligible to apply for membership of either the Australian Society of Certified Practising Accountants or the Institute of Chartered Accountants in Australia, the Psychology program is accredited by the Australian Psychological Society (APS), and the Information Technology specialisation is recognised by the Australian Computer Society as a Professional Level course (provisional). Graduates are eligible for associate membership. After four years of relevant experience, a graduate can apply for full membership. Students seeking professional recognition may not be able to complete a double degree without undertaking extra subjects.

Course duration
Four years full-time or approximately eight years part-time. An optional and additional year of Industry-based Learning (IBL) is also available to full-time students. Students may accelerate progress by undertaking some subjects during the summer semester.

Structure
To complete the double degree, students need to successfully complete 32 subjects consisting of core subjects, other compulsory subjects, and one of the following combinations:

- Two majors and two minors.
- Three majors and one minor.
- Four majors and electives.

Core subjects

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>LCI101</td>
<td>Information Methods</td>
</tr>
<tr>
<td>LCI100</td>
<td>Learning and Communications Behaviour</td>
</tr>
<tr>
<td>LCT100</td>
<td>Science, Technology and Society</td>
</tr>
<tr>
<td>LCR100</td>
<td>Statistics and Research Methods</td>
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</table>

Core Business subjects (4 of the five listed below)

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>LBC100</td>
<td>Accounting 1</td>
</tr>
<tr>
<td>LBE100</td>
<td>Microeconomics</td>
</tr>
<tr>
<td>LBM100</td>
<td>Marketing Concepts</td>
</tr>
<tr>
<td>LBL100</td>
<td>Introduction to Commercial Law</td>
</tr>
<tr>
<td>LTE200</td>
<td>Organisations and Management</td>
</tr>
</tbody>
</table>

Majors/Minors

- Business major (at least one)
- Accounting (6 post Stage 1 subjects)
- Marketing (6 post Stage 1 subjects)
- Economics (6 post Stage 1 subjects)
- Human Resource Management (6 subjects, including LTE200)
- Management (6 subjects, including LTE200)
- Information Systems (7 subjects)
- Social Science major (at least one)
- Media Studies (7 subjects)
- Psychology (11 subjects)
- Sociology (7 subjects)

Refer to the Lilydale Specialisations section in this handbook for further details. One or two additional majors and/or minors from the above, plus:

- Information Technology (8 subjects for major/5 subjects for minor)
- Tourism (8 subjects for major/4 subjects for minor)
- Social Statistics (minor only, 4 subjects)
- Computing (minor only, 5 subjects)
- Business Computing and eBusiness (minor only, 5 subjects)
- Interactive Multimedia (8 subjects for major/5 subjects for minor)
- Economics/Finance (minor only, 5 subjects including LBE100)
- Electives as required

Refer to the Lilydale Specialisations section in this handbook for further details.

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.

VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Consideration will be given to the full range of an applicant's VCE studies and results, to the level of performance in CATs, and to the student profile.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

DUAL QUALIFICATIONS

L057 Bachelor of Business/Advanced Diploma of Business (Marketing)
VTAC code: 35171 (F/T), 35173 (Int. Fee)
2001 Clearly-in ENTER: 68.05

This dual award provides an opportunity for students to combine specific sales and marketing competencies with the theoretical knowledge, communications skills and an advanced understanding of integrated business methods required for sound management in all areas of modern business.

Students will undertake concurrent studies in all marketing areas at both theoretical and practical levels, and have the opportunity to relate these to complementary business areas by undertaking majors, minors or electives in a variety of related business management areas, including tourism, financial management, economics, business computing and human resource management.

Subjects in the Marketing Major within the Bachelor of Business are taken in conjunction with subjects in the Advanced Diploma of Business (Marketing) offered by Swinburne TAFE. Initial TAFE-only studies are increasingly complemented by degree studies over the first two years, with the last two years being undertaken only at the degree level.

Students may withdraw at various exit points, namely with an Advanced Certificate in Sales Management after one year, an Advanced Diploma of Business (Marketing) after two years, or both Advanced Diploma of Business (Marketing) and Bachelor of Business after four years study.

Campus
Lilydale

Career opportunities
The combined course is clearly directed to achieving practical vocational outcomes. Marketing is the fastest growing sector of management study and practical application within industry. The package offered by the dual award prepares graduates with both grassroots and conceptual competencies along with enhanced industry orientation by means of practically-oriented projects at all levels of study. Career opportunities are available in a wide range of interesting...
and challenging fields including: business-to-business marketing, market research, advertising and promotion, retailing, market planning, product and service marketing, tourism and international marketing.

Course duration
Four years full-time. However, students may be able to reduce their time commitment by early completion of TAFE modules and expedited degree modules eg. Summer Semester study.

Structure
Cross-credit arrangements ensure that appropriate credits and exemptions are given in each award for studies completed at each stage. Students are therefore required to undertake the TAFE modules in the Advanced Diploma of Business (Marketing) plus sixteen degree subjects:
Of the sixteen degree subjects the required Higher Education subjects are:

Year 1

Year 2

Year 3

Year 4

The remaining ten subjects must include a major (6 units) or minor (4 units) sequence from the wide variety offered in any of the Swinburne Lilydale degrees.

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.
VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Consideration will be given to the full range of an applicant’s VCE studies and results, to the level of performance in CATs, and to the student profile.
Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.
This course is not available to students who have completed an advanced diploma in marketing.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

LO72 Bachelor of Business (Accounting) / Advanced Diploma of Business (Accounting)
VTAC code: 35041 (F/T), 35043 (Int. Fee)
2001 Clearly-in: ENTER: 52.20

Subjects in the Bachelor of Business (Accounting) are taken in conjunction with subjects in the Advanced Diploma of Business (Accounting) offered by Swinburne TAFE. Initial TAFE-only studies are increasingly complemented by degree studies over the first two years with the last two years being undertaken at the degree level only. The dual award course provides an opportunity for students not only to gain specialist accounting training at a theoretical and practical level but also to undertake minors in a variety of related areas including economics, finance and human resource management.

Campus
Lilydale

Career opportunities
Major studies in accounting combined with other appropriate business subjects can lead to job opportunities working as a professional accountant in fields as diverse as auditing, liquidation, taxation, investment, finance, management accounting and information technology. Such opportunities are available both in Australia and overseas, and can be found within commerce and industry, public accounting firms and the public sector.

Professional recognition
Completion of the degree within the dual award framework will enable students to apply for membership of either the Australian Society of Certified Accountants or the Institute of Chartered Accountants in Australia.

Course duration
Four years full-time. However, students may be able to reduce their time commitment by early completion of TAFE modules and expedited degree modules eg. Summer Semester study.

Structure
Students undertake both an Advanced Diploma of Business (Accounting) as well as a Business (Accounting) degree over four years of full-time study.

Course subjects
In addition to the TAFE subjects students will be required to undertake the following degree subjects:

Stage 1

Stage 2

Stage 3

Stage 4

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification.
VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Consideration will be given to the full range of an applicant’s VCE studies and results, to the level of performance in CATs, and to the student profile.
Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.
This course is not available to students who have completed Advanced Diploma of Business (Accounting).

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact Swinburne Lilydale on +61 3 9215 7000
L070  Bachelor of Business  
(Tourism and Enterprise Management)/  
Diploma of Hospitality Management  
VTAC code: 35051 (F/T), 35053 (Int. Fee)  
2001 Clearly-in ENTER: 58.10

Students undertake both a Diploma of Hospitality Management and a degree in Business (Tourism and Enterprise Management). The dual award provides an opportunity for students to combine specific customer-related competencies and hospitality industry experience with the knowledge, skills and understandings required for sound management in the broader tourism system. Students will undertake concurrent studies at theoretical and practical levels in the hospitality, tourism and enterprise management areas, and have the opportunity to relate these to other business areas such as marketing, financial management, and human resource management.

The course is clearly directed to vocational outcomes. Hospitality is the most rapidly growing subsector within the growing tourism industry. The package offered by the dual award prepares graduates with grassroots competencies and an industry orientation supported by deep theoretical and practical understandings of tourism management as a business activity and of tourism as a form of human behaviour.

Career opportunities
This dual award prepares students for a range of tourism and tourism related industries from enterprise marketing to small/medium sized business management.

Course duration
Four years full-time. However, students may be able to reduce their time commitment by early completion of TAFE modules.

Structure
Subjects in the Bachelor of Business (Tourism and Enterprise Management) are taken in conjunction with subjects in the Diploma of Hospitality Management offered by Swinburne TAFE. Students may withdraw at various exit points with a Certificate IV in Hospitality Supervision or a Diploma of Hospitality Management.

Cross-credit arrangements ensure that credits and exemptions are given in each award for studies completed at each stage. Students are therefore required to undertake TAFE modules in the Diploma of Hospitality Management plus sixteen degree subjects.

Course subjects
The Higher Education Modules are:

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<thead>
<tr>
<th>Year</th>
<th>Semester 1</th>
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<tr>
<td>1</td>
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<td>Tourist Destination Management</td>
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<td></td>
<td>Tourist Destination Management</td>
<td>Human Resource Management</td>
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LBM200  Marketing Behaviour
LCR100  Statistics and Research Methods
LTT300  Tourism Channels and Travel Management
LTE 302  Leadership and Management
LTE301  Strategic Planning & Project management
LTE302  Planning and Management in Ecotourism
LTE300  Organisational Change & Development

Entry requirements
Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification

VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Consideration will be given to the full range of an applicant's VCE studies and results, to the level of performance in CATs, and to the student profile.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

This course is not available to students who have completed the Diploma of Hospitality Management.

Application procedure
Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

L073  Bachelor of Social Science/  
Diploma of Community Services  
(Welfare Studies)  
VTAC code: 35111 (F/T), 35113 (Int. Fee)  
2001 Clearly-in ENTER: 61.20

The Bachelor of Social Science and Diploma of Community Services (Welfare Studies) offer students both a theoretical and applied framework for informed decision making, problem solving and resource management in the changing context of human services. It aims to enhance the skills, knowledge and careers of students in one of the major growth areas of employment in Australia.

Students complete the requirements for one major and one minor from the Bachelor of Social Science and the requirements for the Diploma in Community Services. For the degree component of the qualification students elect to take either a major in Psychology coupled with a Sociology minor, or a major in Sociology coupled with a Psychology minor. The Psychology major offers both a theoretical background and applied knowledge. The Sociology major is a crucial part of informed decision making and human resource management in a rapidly changing social world. In addition, the program takes an applied approach by emphasising the solving of practical problems faced by individuals, organisations and governments.

Career opportunities
Graduates find work in a variety of settings in social, health and human service areas to promote, relieve or restore the social functioning of individuals, families, social groupings or large communities. The Welfare Studies diploma is recognised by government and non-government agencies for employment in the fields of child welfare, youth work, disability, family work and aged care. A Psychology major provides a basis for further studies and a career as psychologist. Sociology graduates may seek employment in the areas of social research, administration, planning, community development, human resources, policy development and marketing.

Professional recognition
The Diploma is recognised by the Australian Institute of Welfare and Community Workers. The Psychology major is accredited by the Australian Psychological Society.
Course duration

Four years full-time.

Structure

Subjects in the Bachelor of Social Science are taken in conjunction with subjects in the Diploma of Community Services (Welfare Studies) offered by Swinburne TAFE. Students are required to undertake TAFE modules in the diploma course plus the Higher Education subjects.

Psychology Major with Sociology Minor

Year 1

Semester 1
- LSY100 Psychology 100
- LCR100 Statistics and Research Methods
- LCT101 Information Methods

Semester 2
- LSY101 Psychology 101
- LSS100 Introduction to Sociology
- LCT100 Science, Technology and Society

Year 2

Semester 1
- LQ200 Design and Measurement 2
- LSY201 Developmental Psychology
- LSS200 Difference, Deviance and Conformity

Semester 2
- LSY200 Cognition and Human Performance
- LQ200 Design and Measurement 3
- LSS202 Ethnicity, Culture and Diversity Management

Year 3

Semester 1
- LSY300 The Psychology of Personality

Semester 2
- LSS201 Sociological Perspectives
- LSY304 Abnormal Psychology

Year 4

Semester 1
- LSS300 Organisations and Society
- LSY301 Psychological Measurement

Semester 2
- LSY3047 Social Psychology
  - Plus one of:
    - LSS302 Research Approaches, OR
    - LSS303 Sociology and Social Policy

Sociology Major with Psychology Minor

Year 1

Semester 1
- LSY100 Psychology 100
- LCR100 Statistics and Research Methods
- LCT101 Information Methods

Semester 2
- LSY101 Psychology 101
- LSS100 Introduction to Sociology
- LCT100 Science, Technology and Society

Year 2

Semester 1
- LQ200 Design and Measurement 2
- LSY201 Developmental Psychology

Semester 2
- LSS202 Ethnicity, Culture and Diversity Management
- LSY304 Abnormal Psychology

Year 3

Semester 1
- LSS200 Difference, Deviance and Conformity

Semester 2
- LSS202 Ethnicity, Culture and Diversity Management
- LSY304 Abnormal Psychology

Year 4

Semester 1
- LSS300 Organisations and Society

Semester 2
- LSS302 Research Approaches
- LSS303 Sociology and Social Policy

Entry requirements

Successful completion of an appropriate Victorian Year 12 or its equivalent, such as an interstate or international Year 12 qualification. Applicants with VCE who are under 23 years of age are required to have at least one year voluntary or paid work experience or equivalent in the field of study. Selection may also be based on an interview and a short written exercise.

VCE prerequisites: Units 3 & 4 - a study score of at least 20 in English (any). Consideration will be given to the full range of an applicant’s VCE studies and results, to the level of performance in CATs, and to the student profile.

Applicants who do not satisfy the above requirements may be selected after consideration of their employment and educational background.

This course is not offered to students who have completed the Diploma of Community Services (Welfare Studies).

Application procedure

Applications must be made through the Victorian Tertiary Admissions Centre (VTAC).

Further information

Contact Swinburne Lilydale on +61 3 9215 7000

LILYDALE SPECIALISATIONS

Accounting

Accounting is the basic language of business. The accounting subjects offered cover the many different aspects that accounting embraces in today's business activities. The overall emphasis is on providing information and analytical tools which improve the decision-making process throughout an organisation.

Stage 1 Accounting gives students an overview of accounting from a user’s perspective: how to read and analyse accounting reports. Accounting information is an important basis on which many decisions in all areas of business are made.

Stage 2 subjects introduce both the process of creating accounting reports and developing other accounting information for decision-making. Students learn to use a variety of analytical tools and recording processes. Subjects cover a range of areas from accounting as a business computer information system, to developing information to assist the marketing, purchasing, production and administrative functions, through to financial management of the firm.

Stage 3, subjects can be taken which provide students with additional analytical tools used in decision-making in a wide variety of business problems. In addition, further specialist subjects in tax, auditing, financial reporting and personal investment can be studied.

Some accounting subjects can be counted towards an accounting major or minor, or towards a finance major or minor, but not both at the same time. This illustrates the broad range of studies which come under the accounting umbrella.

Career opportunities

Students with accounting majors or minors find rewarding work in industry, commerce, the public sector, the finance industry or business consulting.
Course subjects

Accounting Major
This combination is illustrative. Other combinations or subject choices are possible provided prerequisites are met.

Stage 1
LBC100 Accounting 1

Stage 2
Any four of:
- LBC200 Computer Accounting Systems
- LBC201 Corporate Accounting
- LBC202 Management Accounting 1
- LBC203 Computer Cost Accounting Systems
- LBC204 Financial Management 1

Stage 3
At least two of:
- LBC300 Accounting Theory
- LBC301 Taxation
- LBC302 Auditing
- LBC303 Strategic Cost Management
- LBC304 Financial Management 2

Accounting Minor
This combination is illustrative. Other combinations or subject choices are possible provided prerequisites are met.

Stage 1
LBC100 Accounting 1

Stage 2
- LBC200 Computer Accounting Systems
- LBC202 Management Accounting 1
- LBC203 Computer Cost Accounting Systems
- LBC204 Financial Management 1

Stage 3
LBC303 Strategic Cost Management

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

Business Computing and eBusiness

Course subjects

Details of Minor

Stage 1
- LAI100 Information Systems Fundamentals
- LAS100 Software and Multimedia Concepts

Stage 2
- LAI230 Management Support Systems
  Plus two of:
  - LAI270 Database Concepts and Modeling
  - LAI240 Electronic Communications and Applications
  - LAI280 Human-Computer Interaction
  - LAM270 Multimedia Tools and Concepts

Stage 3
- LAI350 eCommerce and Business Computing Applications

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

Computing

Career opportunities
The Computing major, combined with other appropriate subjects, can lead to career opportunities within the scope of most entry level positions in the information technology field, including positions such as programmer, programmer analyst, software engineer and systems engineer.

Course subjects

Computing Major

Stage 1
- LAC100 Computing Fundamentals
- LAS100 Software Engineering Concepts

Stage 2
- LAC220 Programming
- LAC224 Systems Programming & Architectures
- LAS200 Systems Analysis & Design

Plus one other Stage 2 Information Technology, Systems and Multimedia subject.

Stage 3
- LAC310 Advanced Programming and Systems Project

Computing Minor

Stage 1
- LAC100 Computing Fundamentals
- LAS100 Software Engineering Concepts

Stage 2
- LAC220 Systems Programming & Architectures
- LAC200 Programming

Stage 3
- LAS320 Software Engineering and CASE

Computing Minor/Co-minor Applied Science (IT)

Stage 1
- LAC100 Computing Fundamentals
- LAS100 Software Engineering Concepts

Stage 2
- LAC220 Systems Programming & Architectures
- LAC200 Programming

Stage 3
- LAS310 IT Strategies and Project Management
  Plus one Stage 2 or 3 Information Technology, Systems and Multimedia Subject.

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

Economics

Understanding economic principles is an important requirement for a career in business. An economic approach to important practical social and business problems is the focus of the economics discipline. Economics is the study of what, how and for whom to produce: in essence, how society can achieve the maximum benefit from available resources. It emphasises the importance of sound decision making, at the level of the individual, the firm, and the society as a whole. Economics examines problem areas such as unemployment, inflation, foreign debt and environmental degradation. It also provides guidance to decision makers on appropriate strategies for successful operation in both local and international markets. Within the economics major or minor, students also develop skills in interpreting and evaluating economic commentaries and reports and in applying economic principles to real issues facing business and government.

Career opportunities
Students completing an economics major or minor find employment in a wide range of challenging fields in both the public and private sectors. These include
administration, management consulting, economic policy evaluation, financial analysis, banking and market analysis.

Course subjects

Economics Major
This combination is recommended. Other combinations or subject choices may be negotiated.

Stage 1
LBE100  Microeconomics
Stage 2
LBE200  Macroeconomics
LBE201  Managerial Economics and Strategy
LBE203  Environmental Economics
Stage 3
LBE300  Economic Policy in Society
LBE301  International Trade and Finance
LBE302  Economic Development

Economics Minor
This combination is recommended. Other combinations or subject choices may be negotiated.

Stage 1
LBE100  Microeconomics
Stage 2
LBE200  Macroeconomics
LBE201  Managerial Economics and Strategy
LBE203  Environmental Economics
Stage 3
One of:
LBE300  Economic Policy in Society
LBE301  International Trade and Finance
LBE302  Economic Development

Economics/Finance Minor
This combination is recommended. Other combinations or subject choices may be negotiated.

Stage 1
LBC100  Accounting 1
LBE100  Microeconomics
Stage 2
LBE200  Macroeconomics
Stage 3
One of:
LBE204  Financial Management 1
LBE304  Financial Management 2
LBE301  International Trade and Finance

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

Economics/Finance
Finance is concerned with financial and capital markets, government influences on those markets, and the role of the organisation within this framework. Finance theory is a relatively recent development and draws on the disciplines of both economics and accounting. A Finance minor will equip graduates with a knowledge of financial instruments which are available, investment options available for both personal and enterprise investment, how different forms of financial markets function, the relationship between risk and reward and the relationship between the business enterprise and financial markets, both domestic and international. It will lead to knowledge which assists in making financial decisions for an organisation.

Career opportunities
Finance is one of the fastest growing employment areas. Finance graduates who undertake some further study also qualify as Certified Financial Planners.

Course subjects

Economics/Finance Minor
This combination is recommended. Other combinations or subject choices may be negotiated.

Stage 1
LBC100  Accounting 1
LBE100  Microeconomics
Stage 2
LBE200  Macroeconomics
LBC204  Financial Management 1
Stage 3
LBC304  Financial Management 2
LBE301  International Trade and Finance

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

eCulture and Media Studies
Media Studies at Swinburne offers a broad range of lively subjects which are essentially analytical and critical in their approach. During the later stage of the major, students can acquire hands on skills in publishing and production procedures.

Career opportunities
Students who have graduated from the Bachelor of Social Science with a major in Media Studies have been employed in many related fields: commercial and public relations, television, print journalism, radio production, publishing, research, public relations, advertising and telecommunications research and marketing. Many students have found that, though not directly employed in a media industry, the knowledge and communications skills acquired in the course have many useful applications in their work and life.

Structure
Students undertaking the Bachelor of Social Science can choose from ten subjects in eCulture and Media Studies, but only six post Stage 1 subjects are required for completion of the Media Studies major. Minimum requirements for the major in Media Studies are one Stage 1 subject, three Stage 2 subjects and three Stage 3 subjects.

Course subjects

Media Studies Major
Stage 1
LSM100  An Introduction to Media, Literature and Film
Stage 2
LSM200  eCulture
LSM201  Writing for the Media
LSM203  New Media: The Telecommunications Revolution
Stage 3
LSM301  Electronic Writing
LSM302  Information Society: Promises and Policies
LSM304  Cyberscreen Studies

eCulture Minor
Stage 1
LSM100  An Introduction to Media, Literature and Film
Stage 2
LSM200  eCulture
LSM204  Cinema Studies
Stage 3
LSM302  Information Society: Promises and Policies
LSM304  Cyberscreen Studies

eMedia Minor
Stage 1
LSM100  An Introduction to Media, Literature and Film
Stage 2
LSM201  Writing for the Media
Stage 3
LSM301  Electronic Writing
LSM302  Information Society: Promises and Policies
LZZ301  Work Integrated Learning Project
Media Minor

Stage 1
LSM100  An Introduction to Media, Literature and Film

Stage 2
LSM201  Writing for the Media
LSM203  New Media

Stage 3
LSM202  Information Society: Promises and Policies

Plus one elective from the eCulture and Media Studies discipline

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

Enterprise Management

This specialisation is only available in Bachelor of Business (Tourism and Enterprise Management).

Career opportunities
The Enterprise Management major combines management subjects with financial management and tourism. Thus, it can lead to a management position with responsibilities for managing budgets. It also emphasises the development of strategic and entrepreneurial skills with a focus on tourism.

Course subjects

Enterprise Management Major

Stage 2
LTE200  Organisations and Management
LTE201  Human Resource Management
LTE202  Organisational Behaviour
LBC204  Financial Management 1

Stage 3
LTE300  Organisational Change and Development
LTE301  Strategic Planning and Project Management
LTE302  Leadership and Management

Enterprise Management Minor

Stage 2
LTE200  Organisations and Management
LTE201  Human Resource Management
LTE202  Organisational Behaviour

Stage 3
LTE301  Strategic Planning and Project Management

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

Human Resource Management

Human Resource Management involves managing and coordinating the productive use of people to achieve the strategic business objectives of the organisation. Most HRM departments are responsible for planning, coordinating and advising on legal aspects of employment; determining, attracting and selecting employees and developing, rewarding and managing human resources. It serves as a catalyst for implementing and managing change and development and takes a “line management” perspective to contribute to corporate profit margins.

Career opportunities
The Human Resource Management major, combined with other appropriate subjects, can lead to career opportunities where there is a focus on employing human resources. Graduates with a Human Resource Management major are well equipped to work in the HR departments of organisations. This HRM major, which combines theory and practical experiences, makes students immediately attractive to an employer seeking a good administrator who is also a strategic thinker.

Course subjects

Human Resource Management Major

Stage 2
LTE200  Organisations & Management
LTE201  Human Resource Management
LTE202  Organisational Behaviour

Stage 3
LSS300  Organisations and Society

Plus any two of:
LTE300  Organisational Change and Development
LTE301  Strategic Planning & Project Management
LZZ301  Work Integrated Learning Project (Management)

Human Resource Management Minor

Stage 2
LTE200  Organisations & Management
LTE201  Human Resource Management
LTE202  Organisational Behaviour

Stage 3
LSS300  Organisations and Society

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

Information Systems

The study of Information Systems and supporting technology is vital for any student entering the business world. The emphasis is on the effective use of information and information technology within an organisation and the development of systems for solving business problems.

Career opportunities
The Information Systems major, combined with other appropriate subjects, can lead to career opportunities within the scope of the management of information technology implementations, and the design and analysis of I.T. solutions. Information systems includes the development of management oriented systems support and executive information systems.

Course subjects

Information Systems Major

Stage 1
LAI100  Information Systems Fundamentals
LAS100  Software and Multimedia concepts

Stage 2
LA205  Human-Computer Interaction
LA230  Management Support Systems
LA210  Database Concepts and Modelling

Plus one of:
LAM270  Multimedia Tools and Concepts
LA240  Electronic Communications and Applications

Stage 3
LA350  eCommerce and Business Computing Applications

Plus one of:
LA300  Professional Reading & Writing in Technology & Culture
LA320  Database Management Systems
LAS310  IT Strategies and Project Management
**Information Systems Minor**

**Stage 1**

- LAI100 Information Systems Fundamentals
- LAS100 Software and Multimedia concepts

**Stage 2**

- LAO230 Management Support Systems
- LAO260 Human-Computer Interaction

Plus one Stage 2 or 3 Information Technology Discipline subjects.

**Stage 3**

One of:

- LAO300 Professional Reading & Writing in Technology & Culture, OR
- LAO350 eCommerce and Business Computing Applications

Plus one Stage 2 or 3 subject from Information Technology, Systems and Multimedia.

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

**Information Technology**

The Bachelor of Applied Science (Information Technology) provides the foundation for graduates to aspire to become leaders in Australia’s information technology industry. The course incorporates state of the art skills in information technology, systems development and management as well as a balance of existing approaches necessary to apply computing in the modern organisation environment.

**Career opportunities**

Appropriate combinations of subjects can lead to career opportunities within the scope of software development, systems analysis and design, database development, systems administration and computer network administration.

**Course subjects**

**Information Technology Major**

**Stage 1**

- LAS100 Software & Multimedia Concepts
- LAC100 Computing Fundamentals

**Stage 2**

- LAS200 Systems Analysis and Design
- LAC200 Programming
- LA210 Database Concepts and Modelling

**Stage 3**

- LAC300 IT Professional & Ethical Issues

Plus two of:

- LAC220 Systems Programming and Architectures
- LAC310 Advanced Programming and Systems Project
- LAI320 Database Management Systems
- LAS320 Software Engineering and CASE
- LZZ301 Work Integrated Learning Project (or equivalent)

**Information Technology Minor**

**Stage 1**

- LAS100 Software & Multimedia Concepts

**Stage 2**

- LA210 Database Concepts and Modelling
- LA200 Systems Analysis and Design

**Stage 3**

- LAS310 Information Technology Strategies and Project Management

Plus one elective from level 2 or 3 Information Technology, Systems and Multimedia Discipline.

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

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**Interactive Multimedia**

Interactive multimedia is becoming a dominant mode of delivering information and entertainment and is increasingly being used by businesses, government and educational institutions to create, promote and sell products, to provide graphic information about services and to provide training. The Bachelor of Social Science course (Interactive Multimedia) provides students with practical and theoretical skills for developing interactive multimedia.

**Career opportunities**

The Bachelor of Social Science course (Interactive Multimedia) will lead to employment in the interactive multimedia industry, or in industries which are making increasing use of interactive multimedia products for a variety of purposes, such as tourism and training management.

**Structure**

Students undertaking the Interactive Multimedia major are required to complete two Stage 1 subjects, three Stage 2 subjects, and three Stage 3 subjects.

**Course subjects**

**Interactive Multimedia Major**

**Stage 1**

- LAS100 Software & Multimedia Concepts
- LSM100 Texts and Contexts

**Stage 2**

- LAI260 Human Computer Interaction
- LAM270 Multimedia Tools and Concepts
- LSM200 eCulture

**Stage 3**

- LAI300 Professional Reading & Writing in Technology & Culture
- LSM201 Electronic Writing, OR
- LAM300 Interactive Multimedia Project (25 credit points)

**Interactive Multimedia Development Minor**

**Stage 1**

- LAS100 Software & Multimedia Concepts

**Stage 2**

- LAI260 Human-Computer Interaction
- LAM270 Multimedia Tools and Concepts

Plus one other Stage 2 or 3 Information Technology, Systems and Multimedia discipline subject.

**Stage 3**

- LAM350 eCommerce and Business Computing Applications, OR
- LAI300 Professional Reading & Writing in Technology & Culture

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

**Management**

Management addresses the principles and processes of management strategies, structures and practices. In the context of a competitive globalised economy, students study how to develop expertise in professional management. The course recognises the diverse relationships accompanying increasingly rapid change in organisations, development processes and the nature of work. It also examines the challenge that organisations face to incorporate ebusiness and ecommerce into their operations. Students are challenged to become proactive and self managing, and are encouraged to develop creative decision making skills. The discipline incorporates a work integrated learning project where students may investigate, on an individual level or in groups, a specific area of management.

**Career opportunities**

Graduates with management major are well equipped to start a professional management career. Their studies, which combine theory with practical experiences, make them immediately attractive to an employer.
Career opportunities

Opportunities are available in a wide range of fields such as sales and marketing, tourism, accountancy, human resources, information technology and general management.

Marketing

Successful companies employ customer driven strategies. Marketing deals with the building and implementation of customer focus. The meaning of marketing is often misunderstood: one need look no further than the many advertisements without any real substance as to customer benefits and/or the delivery of these benefits. Frequently, no distinction is made between advertising, selling and marketing.

Marketing changes the focus and the attitudes prevailing in the organisation, provided staff understand the meaning of marketing. What does marketing mean? The answer is relatively simple: put yourself inside the skin of your customers and forget yourself for a while. Instead of thinking on behalf of your customers you have to learn to listen to your clients, accept what they say at face value and deliver what they want to satisfy their particular needs, thereby achieving long term profitability or other goals through repeat business.

At Swinburne, we explain the components of a business plan and marketing’s central role in strategy. Students are introduced to topics such as consumer behaviour, demand determinants, customer focus, market research, market planning, marketing channels, product and services management, advertising and promotion, international marketing and business to business marketing.

Students are encouraged to think through problems and to find their own answers. They are introduced to frameworks, models and thinking processes to ensure that they make the most of their abilities. A variety of practical assignments and presentations ensure that the theory is put into practice, for the benefit of students and employers. Vision, understanding, creativity, and the power to influence the future are the outcomes of the marketing curriculum.

Further information

Contact Swinburne Lilydale on +61 3 9215 7000

Psychology

The undergraduate psychology program provides students with an introduction to psychology in all three stages. The Stage 1 course in psychology introduces students to a range of topics in psychology and experimental design and analysis. Stage 2 and 3 subjects follow up on some of these areas in more detail. In Stage 3 attention is also given to vocational skills and knowledge relevant to applied fields.

Career opportunities

The Psychology major, combined with appropriate subjects can lead to career opportunities in a range of organisations to work as human resource managers, marketing and advertising personnel, information processing professionals, educational psychologists and research officers. Further studies in areas of professional psychology such as clinical, counselling, organisational, forensic, developmental, health, human factors and sports psychology can lead to a wide range of career opportunities.

Structure

Students intending to major in psychology are required to start the sequence of study with LSY100 Psychology 100, LSY101 Psychology 101 and LCR100 Statistics and Research Methods. Each of these subjects comprises lectures, practical work and instruction in statistical analysis.

In Stage 2, LSY200 Cognition and Human Performance and LSY201 Development Psychology are offered. For students wishing to major in psychology LSG200 Design and Measurement 2, LSG300 Design and Measurement 3 and LSY307 Social Psychology must also be taken.

In Stage 3, subjects offered are LSY300 The Psychology of Personality, LSY301 Psychological Measurement and LSY304 Abnormal Psychology.

It should be noted that the undergraduate psychology program is sequential in nature; completion of the prescribed subjects at one stage of the program is a prerequisite for study at the next level. All subjects offered in this program are
practical skills in data collection and data analysis. These subjects will enable students without a mathematical background to develop a broad range of skills in data collection and data analysis.

This selection of subjects constitutes a minor sequence in Social Statistics, which is an important skill for both employment purposes and for being a knowledgeable and participating citizen of Australian society. A group may be as diverse as a large firm, a school, a rock band, the public service, or a voluntary agency such as a sporting club or community housing association. An appreciation of the different ways social group behaviour can be explained, and the various methods which can be used to get a better understanding of the social world is important to Sociology.

Sociology is the study of people in groups, ranging from the family to whole societies, such as Australia. It is about how individual and group behaviour shapes groups and society, and in turn, how behaviour is shaped by society and its institutions. A group may be as diverse as a large firm, a school, a rock band, the public service, or a voluntary agency such as a sporting club or community housing association. An appreciation of the different ways social group behaviour can be explained, and the various methods which can be used to get a better understanding of the social world is important to Sociology.

Understanding group behaviour, being familiar with different explanations for this behaviour, and being able to gather data to explore aspects of the social world are important skills, both for employment purposes and for being a knowledgeable and participating citizen of Australian society. The teaching of sociology is focused on both conceptual and applied skills including problem identification, statistics, research methods, the formation of life-long learning skills, policy design and implementation. What differentiates sociology at Swinburne from what is taught by sociology departments at other tertiary institutions is our emphasis on comparing Australia with other parts of the world, and in applying sociology to solve practical problems.

There are four specific types of skills we try to develop. First, we develop an awareness of core sociological concepts such as class, gender, and ethnicity. Second, we show the different ways these concepts have been applied to specific fields of study such as the family, the city, deviance, gender, and migration. Third, we explore how governments respond to social problems through policy initiatives, and we explain how these initiatives can be evaluated. Finally, we develop an acute awareness of how to gather data about the social world, and how this data can be used for a wide range of purposes.

Career opportunities
All businesses and organisations have a need to make sense of quantitative information. Statistical expertise is a sought after quality in employees across a variety of fields, including marketing, psychology, tourism, and sociology.

Structure
To qualify for the minor, students must complete the subjects as outlined below. However, if you are undertaking studies in Psychology for professional accreditation you will need to undertake all of the subjects in Social Statistics to qualify for the minor.

Course subjects

Social Statistics Minor
Stage 1
- LCR100 Statistics and Research Methods

Stage 2
- Two or three of:
  - LSO200 Design and Measurement 2
  - LSO201 Survey Research Methods
  - LSO202 Qualitative Research

Stage 3
- One or two of:
  - LSO300 Design and Measurement 3
  - LSO301 Research Project

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

Social Statistics

This selection of subjects constitutes a minor sequence in Social Statistics, enabling students without a mathematical background to develop a broad range of practical skills in data collection and data analysis.

Semester subjects. Thus a student must complete both Stage 1 psychology subjects before enrolling in any Stage 2 psychology subjects, and must complete all Stage 2 psychology subjects before enrolling in any Stage 3 subjects. Details of these prerequisite arrangements are shown in entries for all psychology subjects. Students should note that each psychology subject is worth one semester subject.

Course subjects

Psychology for Professional Recognition
Stage 1
- LSY100 Psychology 100
- LSY101 Psychology 101
- LCR100 Statistics and Research Methods

Stage 2
- LSY200 Cognition and Human Performance
- LSY201 Developmental Psychology
- LSY202 Design and Measurement 2
- LSY203 Design and Measurement 3

Stage 3
- LSY300 The Psychology of Personality
- LSY301 Psychopathological Measurement
- LSY304 Abnormal Psychology
- LSY307 Social Psychology

Psychology Major
Stage 1
- LSY100 Psychology 100
- LSY101 Psychology 101
- LCR100 Statistics and Research Methods

Stage 2
- LSY200 Cognition and Human Performance
- LSY201 Developmental Psychology
- LSY202 Design and Measurement 2
- LSY203 Design and Measurement 3

Stage 3
- Two of (providing prerequisites/co-requisites are met):
  - LSY300 The Psychology of Personality
  - LSY301 Psychopathological Measurement
  - LSY304 Abnormal Psychology
  - LSY307 Social Psychology

For professional recognition students will be required to complete all Stage 3 subjects.

Psychology Minor
Stage 1
- LSY100 Psychology 100
- LSY101 Psychology 101
- LCR100 Statistics and Research Methods

Stage 2
- LSY200 Cognition and Human Performance
- LSY201 Developmental Psychology
- LSY204 Abnormal Psychology
- LSY202 Design and Measurement 2

Further information
Contact Swinburne Lilydale on +61 3 9215 7000
the major in the Sociology are one Stage 1 subject, three Stage 2 subjects and three Stage 3 subjects.

**Course subjects**

**Sociology Major**

**Stage 1**
- LSS100 Introduction to Sociology

**Stage 2**
- LSS200 Difference, Deviance and Conformity
- LSS201 Sociological Perspectives
- LSS202 Ethnicity, Culture and Diversity Management

**Stage 3**
- LSS300 Organisations and Society
- LSS302 Research Approaches
- LSS303 Sociology and Social Policy

**Sociology Minor**

**Stage 1**
- LSS100 Introduction to Sociology

**Stage 2**
- Two or three of:
  - LSS200 Difference, Deviance and Conformity
  - LSS201 Sociological Perspectives
  - LSS202 Ethnicity, Culture and Diversity Management

**Stage 3**
- One or two of:
  - LSS300 Organisations and Society
  - LSS302 Research Approaches
  - LSS303 Sociology and Social Policy

**Further information**

Contact Swinburne Lilydale on +61 3 9215 7000

**Tourism**

This structure applies to students enrolled in the Bachelor of Business.

The tourism stream provides a more industry-specific focus for the understandings provided in the business subjects, and uses an interdisciplinary approach which views tourism as a form of human behaviour as well as a business interest. All subjects will encourage the development of important generic skills in presentation, problem solving, communication and life long learning.

**Career opportunities**

Tourism is a rapidly growing area of the Australian economy. While a high percentage of the positions offered are relatively unskilled, part-time and casual, there is recognition in the industry of the need for professionally qualified managers, in whom business expertise is combined with an understanding of tourism.

Graduates of this course may find employment in the wide range of tourism enterprises (eg. attractions, transport and tour services), in other enterprises where tourists are involved (eg. museums and national parks), in administration, or coordinating organisations such as regional tourism authorities. They will also be equipped to develop and run their own businesses in the tourism field.

**Course Subjects**

**Tourism Major**

**Stage 2**
- LTT200 Introduction to Tourism
- LTT201 Tourist Destination Management
- LTT202 Tourism Enterprise Development
- LTT203 Tourism Services

**Stage 3**
- LTT300 Tourism Channels and Travel Management
- LTT302 Planning and Management in Ecotourism

**Tourism Minor**

**Stage 2**
- LTT200 Introduction to Tourism

Two of:
- LTT201 Tourist Destination Management
- LTT202 Tourism Enterprise Development
- LTT203 Tourism Services

**Stage 3**
- One of:
  - LTT300 Tourism Channels and Travel Management
  - LTT302 Planning and Management in Ecotourism

**Further Information**

Contact Swinburne Lilydale on +61 3 9215 7000

**HONOURS YEAR**

**L076 Bachelor of Applied Science (Honours)**

The Honours course at Swinburne Lilydale will build on the multi-disciplinary nature of the undergraduate programs currently offered at Lilydale. The program will provide students with skills in research methodology in preparation for higher degrees, as well as the opportunity to undertake work integrated learning projects in industry, government and the community, as the basis of their Honours thesis.

The Honours program will provide students with demonstrated academic ability the opportunity to pursue their undergraduate studies to an advanced level, to deepen their intellectual understanding in their major area of study and to enhance their research skills.

Students may work on either individual or team projects. Cooperative learning and team work are integral to the learning environment of Swinburne Lilydale.

**Campus**

Lilydale

**Career opportunities**

Graduates with a Bachelor of Applied Science (Honours) will have enhanced employment opportunities in their chosen specialisation and discipline area: computing, information technology, or information systems. In addition they will have the advantage of multidisciplinary research skills and intensive team work experience. Students will be well prepared for professional employment in which conceptual, organisational and research skills are in demand. The Honours course is a recognised point of entry into postgraduate research studies.

**Course duration**

One year full-time.

**Structure**

**Semester 1**
- LHO400 Research Approaches (25 credit points)
- LHO401 Thesis/Project - Design to Delivery (25 credit points)

**Semester 2**
- LHO402A Minor thesis project (50 credit points)

**Entry requirements**

A degree from a recognised tertiary institution, in a course acceptable to the selection committee, with results of better than a credit average in Stage 2 and 3 subjects, or a distinction average in Stage 2 and three subjects of a relevant discipline or its equivalent.

**Application procedure**

Applications should be made direct to Swinburne Lilydale.

**Further information**

Contact Swinburne Lilydale on +61 3 9215 7000.
L077  Bachelor of Business (Honours)

The Honours course at Swinburne University of Technology Lilydale will build on the multi-disciplinary nature of the undergraduate programs currently offered at Lilydale. The program will provide students with skills in research methodology in preparation for higher degrees, as well as the opportunity to undertake work integrated learning projects in industry, government and the community, as the basis of their Honours thesis.

The Honours program will provide students with demonstrated academic ability the opportunity to pursue their undergraduate studies to an advanced level, to deepen their intellectual understanding in their major area of study and to enhance their research skills.

Students may work on either individual or team projects. Co-operative learning and team work are integral to the learning environment of Swinburne Lilydale.

Campus
Lilydale

Career opportunities
Students with a Bachelor of Business (Honours) will have enhanced employment opportunities in their chosen specialisation and discipline area: marketing, management, accounting. In addition they will have the advantage of having multi-disciplinary research skills and intensive team work experience. Students will be well prepared for professional employment in which conceptual and organisational and research skills are in demand. The Honours course is recognised point of entry into postgraduate research studies.

Course duration
One year full-time.

Structure

Semester 1
LHO400  Research Approaches (25 credit points)
LHO401  Thesis/Project - Design to Delivery (25 credit points)

Semester 2
LHO402B  Minor thesis project (50 credit points)

Entry requirements
A degree from a recognised tertiary institution, in a course acceptable to the selection committee, with results of better than a credit average in Stage 2 and 3 subjects, or a distinction average in Stage 2 and three subjects of a relevant discipline or its equivalent.

Application procedure
Applications should be made to Swinburne Lilydale.

Further information
Contact Swinburne Lilydale on +61 3 9215 7000

L078  Bachelor of Social Science (Honours)

The Honours course at Swinburne Lilydale will build on the multi-disciplinary nature of the undergraduate programs currently offered at Lilydale. The program will provide students with skills in research methodology in preparation for higher degrees, as well as the opportunity to undertake work integrated learning projects in industry, government and the community, as the basis of their Honours thesis.

The Honours program will provide students with demonstrated academic ability the opportunity to pursue their undergraduate studies to an advanced level, to deepen their intellectual understanding in their major area of study and to enhance their research skills.

Students may work on either individual or team projects. Co-operative learning and team work are integral to the learning environment of Swinburne Lilydale.

Campus
Lilydale

Career opportunities
Students with a Bachelor of Social Science (Honours) will have enhanced employment opportunities in their chosen specialisation and discipline area: sociology, media, social research. In addition they will have the advantage of having multi-disciplinary research skills and intensive team work experience. Students will be well prepared for professional employment in which conceptual and organisational and research skills are in demand. The Honours course is recognised point of entry into postgraduate research studies.

Course duration
One year full-time.

Structure

Semester 1
LHO400  Research Approaches (25 credit points)
LHO401  Thesis/Project - Design to Delivery (25 credit points)

Semester 2
LHO402C  Minor thesis project (50 credit points)

Entry requirements
A degree from a recognised tertiary institution, in a course acceptable to the selection committee, with results of better than a credit average in Stage 2 and 3 subjects, or a distinction average in Stage 2 and three subjects of a relevant discipline or its equivalent.

Application procedure
Applications should be made to Swinburne Lilydale.

Further information
Contact Swinburne Lilydale on +61 3 9215 7000
Postgraduate Courses
### Applied and Industrial Sciences

#### Graduate Certificates

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Campus</th>
<th>Distance</th>
<th>Duration</th>
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#### Graduate Diplomas

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<th>Duration</th>
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#### Master Degrees (by coursework)

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### Business, Innovation and Management

#### Graduate Certificates

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#### Graduate Diplomas

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#### Master Degrees (by coursework)

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<tr>
<td>A181</td>
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#### Higher Degrees (by research)

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<tr>
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### Computing and Information Technology

#### Graduate Certificates

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<tr>
<td>A075</td>
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<td>5 yr</td>
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<tr>
<td>I071</td>
<td>Graduate Certificate of Information Technology</td>
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#### Graduate Diplomas

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<td>I082</td>
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#### Master Degrees (by coursework)

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### Design

#### Graduate Certificates

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#### Graduate Diplomas

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<tr>
<td>DMMD31</td>
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#### Master Degrees (by coursework)

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<tbody>
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<td>DMMD32</td>
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#### Higher Degrees (by research)

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### Engineering and Technology

#### Graduate Certificates

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## Graduate Diplomas

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## Higher Degrees (by research)

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## Health and Human Services

### Graduate Certificates

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<th>Refer Page</th>
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<tr>
<td>Z191</td>
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<tr>
<td>N079</td>
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### Graduate Diplomas

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<tbody>
<tr>
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**Multimedia**

**Graduate Certificates**

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<th>Duration</th>
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**Graduate Diplomas**

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**Master Degrees (by coursework)**

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**Social Sciences and Arts**

**Graduate Certificates**

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**Graduate Diplomas**

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**Master Degrees (by coursework)**

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**Graduate Diploma of Accounting**

A187 Graduate Diploma of Accounting

**Graduate Diploma of Applied Science**

GSIM2 Graduate Diploma of Applied Science (Integrative Medicine)
GSIM4 Graduate Diploma of Applied Science (Nutritional and Environmental Medicine)

**Graduate Diploma of Arts**

N0804 Graduate Diploma of Arts (Applied Media)
N061 Graduate Diploma of Arts (Commercial Radio)

**Graduate Diploma of Business**

L082 Graduate Diploma of Business (eBusiness and Communication)
A181 Graduate Diploma of Business (Human Resource Management)
A186 Graduate Diploma of Business (Marketing)
A187 Graduate Diploma of Business (Research Methodology)

**Graduate Diploma of Business Administration**

B280 Graduate Diploma of Business Administration

**Graduate Diploma of Design**

DMDS30 Graduate Diploma of Design (Design Studies)
DMMD31 Graduate Diploma of Design (Multimedia Design)

**Graduate Diploma of Engineering**

M085 Graduate Diploma of Engineering (Computer Integrated Manufacture)
C082 Graduate Diploma of Engineering (Construction Management)
M074 Graduate Diploma of Engineering (Industrial Engineering)
M061 Graduate Diploma of Engineering (Industrial Information Technology)
IRIND2 Graduate Diploma of Engineering (Industry)
E101 Graduate Diploma of Engineering (Microelectronic Engineering)
IRMICR2 Graduate Diploma of Engineering (Microsystem Technology)
M071 Graduate Diploma of Engineering (Modelling and Process Analysis)
CE70 Graduate Diploma of Engineering (Pavement Technology)
IRIPDI2 Graduate Diploma of Engineering (Product Design Innovation)
M092 Graduate Diploma of Engineering (Robotics and Automation)

**Graduate Diploma of Entrepreneurship and Innovation**

Y082 Graduate Diploma of Entrepreneurship and Innovation

**Graduate Diploma of Information Technology**

I085 Graduate Diploma of Information Technology (Electronic Commerce Systems)
I083 Graduate Diploma of Information Technology (Information Systems Applications)
I082 Graduate Diploma of Information Technology (Information Systems Development)
I084 Graduate Diploma of Information Technology (Internet Software Development)

**Graduate Diploma of Multimedia**

J086 Graduate Diploma of Multimedia

**Graduate Diploma of Science**

Z192 Graduate Diploma of Science (Applied Statistics)
S058 Graduate Diploma of Science (Astronomy)
S059 Graduate Diploma of Science (Network Systems)
### Abbreviation of Postgraduate Awards*

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Postgraduate General Information

Application procedure
All applications for enrolment in postgraduate courses other than Masters degree by research and publication or PhD must be made to the Admissions Officer from whom application forms are available, (03) 9214 8388. Information on application for admission to postgraduate courses can be accessed through the relevant Schools, or downloaded from the Swinburne website: www.swin.edu.au/postgrad/

Australian Foresight Institute (03) 9214 5982
Brain Sciences Institute (03) 9214 8622
Centre for eBusiness and Communication (03) 9215 7000
Industrial Research Institute Swinburne (IRIS) (03) 9214 8600
National School of Design (03) 9214 6882
School of Biophysical Sciences and Electrical Engineering (03) 9214 8859
School of Business (03) 9214 5048
School of Engineering and Science (03) 9214 8372
School of Information Technology (03) 9214 5505
School of Mathematical Sciences (03) 9214 8484
School of Social and Behavioural Sciences (03) 9214 5209
Swinburne Graduate School of Integrative Medicine (03) 9214 5643
Swinburne Graduate School of Management (03) 9214 5855
TAFE School of Engineering (03) 9214 8504
TAFE School of Business and Commerce (03) 9214 8114

Closing dates for 2002 entry
Closing dates for postgraduate coursework programs differ between schools: contact the relevant school for more information. Applications for postgraduate programs by research can be made at any time of the year.

International students
Applications by international students for entry into all Swinburne courses must be made through the International Student Unit. Due to Australian Government regulations, part-time study is not available to full-fee paying international students. Telephone: (03) 9214 8712 or (03) 9214 8647.

Entrance requirements
Applicants for admission to postgraduate courses are normally expected to have completed a degree or diploma. The specific requirements vary from course to course: some are open to those with any tertiary qualification, others may require a qualification in a specific discipline or range of disciplines. Provision is made for admission of applicants who have qualifications other than or less than the normal requirements outlined above but whose employment positions or experience indicates an ability to benefit from the course.

Fees
Fees apply to all postgraduate courses; contact the relevant school for further information.

Higher Degrees by research
All initial enquiries regarding higher degrees by research (masters, PhDs or professional doctorates) should be made to the School or discipline area in which the applicant is interested in undertaking the degree. For more general enquiries on the fields in which supervision may be available, contact the Swinburne Graduate Research School on 9214 5412.

Enrolment and admission to candidature are separate processes, both of which must be completed in accordance with University regulations. Applicants may be accepted, for provisional enrolment, by the Head of School subject to their being admitted to candidature for the degree. Alternatively, persons may apply to the relevant school for admission to candidature and then enrol. Enrolment takes place at the Swinburne Graduate Research School. Further information on the steps involved in candidature is available from Swinburne Graduate Research School.

Nested suite of programs
A number of disciplines offer suites of programs (Graduate Certificate, Graduate Diploma and Masters) which enable students the flexibility of entry and exit points. Suites are available in a number of disciplines, including business administration, information systems, innovation, management, organisation dynamics, risk management, statistics, and telecommunications.

Graduate Certificate
This is usually an entry level postgraduate qualification for applicants with several years experience and is an alternative for those without formal undergraduate qualifications and is normally completed in one year of part-time study.

Graduate Diploma
Generally a one year full-time course or a two year part-time course. Applicants must normally have an undergraduate degree, though not necessarily in the proposed areas of study. Applicants without a degree, but with substantial appropriate experience, may also be eligible for entry.

Admission with Advanced Standing
Graduates with good results in a relevant Graduate Certificate course are eligible to apply for a Graduate Diploma. Students may receive credits for some or all subjects already studied, thereby reducing the time required to complete the Graduate Diploma.

Masters degree by coursework
The duration of the course varies, but the Masters is generally one to two years full-time (or equivalent part-time). Applicants must normally have an undergraduate degree.

Admission with Advanced Standing
Graduates with good results in a relevant Graduate Diploma course are eligible to apply for a Masters by coursework. Students may receive credits for some or all subjects already studied, thereby reducing the time required to complete the Masters.

Postgraduate Education Loans Scheme (PELS)
Most postgraduate coursework programs are fee paying. HECS places are available in all research programs and a small number of Mathematical Sciences coursework programs. The Postgraduate Education Loans Scheme (PELS) will be available to commencing students as well as students who are continuing study in 2002. Eligible students will be able to borrow up to the amount of the tuition fee being charged by the institution for each semester for the duration of their course. For more information, see: www.swin.edu.au/hed/postgrad/PELS/welcome.htm.

Research Scholarships
A number of different research scholarships are available. Contact the Swinburne Graduate Research School for details. Telephone (03) 9214 5412.

Student Administration Enquiries Office
The Student Administration Office provides information and procedural advice on admissions, examinations and awards. Other functions include processing identity cards, production of passport photos, providing enrolment processing forms (e.g. amendment to enrolment form), result certificates, academic statements, enrolment status letters, authorising travel concession forms and international student card forms, certifying University documents, maintenance of students' result records, hire of lockers and academic gowns.

Location and office hours
Hawthorn campus
Enquiries (03) 9214 8088, (03) 9214 8039
The Student Administration Enquiries Office is located in Room AD121, Administration Building (AD), John Street.

Office hours are as follows:
During teaching weeks pre-census date:
8.30am - 6.00pm Monday to Thursday
8.30am - 5.00pm Friday
During teaching weeks post-census date and non-teaching weeks:
Prahran campus
Enquiries (03) 9214 6744
The Student Administration Enquiries Office is located in Room F107, Building F, 142 High Street, Prahran. Office hours are as follows:
8.30am - 5.00pm Monday to Friday
Note: The office is closed on public holidays.

Lilydale campus
Enquiries (03) 9215 7000
Office hours are as follows:
8.30am - 5.30pm Monday to Friday
Note: The office is closed on public holidays.

Swinburne Graduate Research School (SGRS)
Swinburne Graduate Research School exists to provide a University-wide point of contact and communication for all postgraduate research students, to coordinate research services, and to ensure quality in research training. The School runs regular seminars and workshops to assist staff and students to develop their research skills. It also offers induction programs for new researchers and postgraduates, offers advice on resources and provides a focus for interaction and development. The School is managed by the Office of Research and Graduate Studies.

Doctoral study and scholarships
The SGRS is responsible for the administration of PhD and Masters by Research degrees and coordination of other research studies. It provides prospective students with a variety of information on research, masters and doctoral study, including: details about admissions to candidature, expected duration of candidature, progress report requirements, HECs exemption, scholarships, guidelines for thesis presentation, guidelines for supervision, and University policies on research. The School also provides information, application forms and guidelines for a number of Australian scholarships for doctoral and research Masters degrees. Information is also available on other scholarships offered by non-profit organisations, and on overseas scholarship opportunities.

Office of Research and Graduate Studies
The Office of Research and Graduate Studies provides advice on University policies for the conduct of research and the implementation of Swinburne’s Research Management Plan. It also publishes Swinburne’s annual Research Report, which provides an overview of the University’s major research centres, research interests of staff, and details of current research projects.

The Office administers research grants and contracts across the University, ethics committee approvals and intellectual property issues. External organisations seeking advice on Swinburne’s research capabilities should contact the Office on (03) 9214 5225.

The Office provides information on research grants and other opportunities for research funding, as well as details of programs where graduates are employed specifically by an organisation to conduct research. A weekly up-date detailing current opportunities is distributed widely around the University.

Graduate School of Integrative Medicine (GSIM)
Foundation Head and Director of Research
Professor Avni Sali, MBBS, PhD, FRACS, FACS, FACNEM
The Swinburne Graduate School of Integrative Medicine is designed to provide medical professionals with educational programs and research opportunities in complementary therapies. The part-time courses, currently delivered at Hawthorn campus and also to be available through correspondence, combine the scientific principles of conventional medical training with scientifically proven complementary therapies.

The establishment of the School in 1998 was a joint initiative of the University, the Australasian College of Nutritional and Environmental Medicine (ACNEM) and the Australian Integrative Medicine Association (AIMA) and is a reflection of the growing number of medical practitioners who are combining complementary medicines and therapies with conventional medical practice.

Structure
All the component subjects in the Graduate Diploma and Graduate Certificate programs of the School can be taken as single subjects, or as a combination of single subjects. Subjects run for either 4 weeks (10 credit points) or 8 weeks (20 credit points) with 5 contact hours per week. The completion of each subject accumulates credit towards a qualification. All subjects have been allocated CME points in the QA&CE Program by the RACGP.

Research
Professor Avni Sali will lead research into disease prevention and health promotion with an emphasis on nutritional and environmental medicine, exercise and mind/body medicine. The Graduate School of Integrative Medicine will benefit from partnerships with existing research activities at the University, particularly in the areas of applied neuroscience, biophysics and biomedical instrumentation, biochemistry, and psychology/psychophysiology.

Opportunities will be available for students to conduct research projects within a masters course or at PhD level. The selection of complementary therapy research will be based on intensive examination of the scientific evidence in each area in order to identify promising lines of inquiry. The guarantee of scientific validity of the Graduate School’s research comes from a commitment to follow rigorous scientific methods at all times.

Swinburne Graduate Society of Business
The Graduate Society of Business is the oldest of the Swinburne alumni chapters, having been formed in 1977 from the original graduating students of the first course of the Postgraduate Diploma in Business Administration.

Now in its twenty first year, the Society has a network of over one thousand past students, and encompasses and supports all current and past students in the Graduate Certificate, Postgraduate Diploma and Masters programs.

The Society operates as an independent official body, represented by a committee, and relies on members’ cooperative efforts to assist the cause of industry relevant and supported further education, extension of qualifications and industry networking both internally and externally to the University.

Current activities include regular newsletters, seminars, meetings and speakers, an extensive personal network, working business lunches, library membership and other benefits as part of the wider Alumni of the University.

For further information contact:
Brian Golland, PO Box 145, Camberwell 3124
Telephone: (03) 9672 3548 BH, (03) 9435 6614 AH
Fax: (03) 9432 2500
Swinburne Alumni Office on (03) 9214 8705.
APPLIED and INDUSTRIAL SCIENCES

ASTRONOMY

S048 Graduate Certificate of Science (Astronomy)

S058 Graduate Diploma of Science (Astronomy)

S068 Master of Science (Astronomy)

This program covers the fundamental concepts and ‘big questions’ of modern astronomy, in order to equip students with a good overall understanding and general knowledge about modern astronomy, rather than training as a professional astronomer.

The Graduate Certificate course provides subjects suitable for members of the general public who wish to obtain an overview of astronomy without necessarily proceeding further, with the option to continue to more advanced subjects and qualifications.

The intention of the Graduate Diploma and Masters course is to provide scope for more specialist study in astronomy, plus opportunities for major project work, while still maintaining an emphasis on learning about the fundamental concepts and ‘big questions’ of modern astronomy.

Course subjects

Graduate Certificate students choose four subjects.

Graduate Diploma students choose eight subjects.

Masters students choose twelve subjects.

Semester 1

HET602 Exploring the Solar System
HET603 Exploring Stars and the Milky Way
HET604 Exploring Galaxies and the Cosmos
HET605 Theories of Space and Time
HET606 Tools of Modern Astronomy
HET607 History of Astronomy
HET608 Introduction to Stellar Astrophysics
HET609 Astrophotography and CCD Imaging
HET610 Studies in Space Exploration
HET611 Introduction to Stellar Astrophysics
HET612 Major Project – History of Astronomy
HET613 Major Project – Astrophotography and CCD Imaging
HET614 Major Project – Computational Astrophysics

Semester 2

HET602 Exploring the Solar System
HET603 Exploring Stars and the Milky Way
HET604 Exploring Galaxies and the Cosmos
HET605 Theories of Space and Time
HET606 Tools of Modern Astronomy
HET607 History of Astronomy
HET608 Introduction to Stellar Astrophysics
HET609 Astrophotography and CCD Imaging
HET610 Studies in Space Exploration
HET611 Introduction to Stellar Astrophysics
HET612 Major Project – History of Astronomy
HET613 Major Project – Astrophotography and CCD Imaging
HET614 Major Project – Computational Astrophysics

Structure

The Graduate Certificate requires the completion of four subjects for a total of 50 credit points. The Graduate Diploma requires the completion of eight subjects for a total of 100 credit points. The Masters requires the completion of twelve subjects for a total of 150 credit points. Each subject has a value of 12.5 credit points.

As the course is offered in a fully online mode, there are no traditional formal contact hours involving lectures, tutorials, laboratories etc. However, students will be required to work through the course material (supplied on CD-ROM), undertake required readings from textbooks and the Internet, contribute regularly to assessable asynchronous newsgroup discussions, as well as undertake assignments and project work. The equivalent student contact hours for each subject is 5 hours per week during academic semesters.

Entry requirements

A degree or diploma from a recognised tertiary institution (or approved equivalent) or relevant experience, depending on the level of entry. Entry to the Graduate Certificate is restricted to residents of Australia. Entry to the Graduate Diploma or Masters program is available worldwide. Students who are admitted to the Graduate Certificate, and who obtain credits or above will qualify for admission, with full credit, to a higher level of the program.

Note: not all of the above subjects will be conducted every semester. Electives will usually be offered subject to satisfactory enrolment numbers. Students should contact the School Administration Office to obtain further information about subject offerings.

Further information

Contact the School of Biophysical Sciences and Electrical Engineering

Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: astro@swin.edu.au
Website: www.astronomy.swin.edu.au/sao/welcome.html

COMPUTATIONAL CHEMISTRY

Z087 Master of Applied Science (Computational Chemistry/ Biomolecular Design)

The masters degree course in computational chemistry has been developed to fill a niche for an advanced course in computational chemistry. The course has been developed for provision via the Internet, in recognition of the specialised nature of the course and the likelihood that enrolments from any one geographical area would be small.

Aims & Objectives

The aim of the course is:

• To develop in students a mastery of the broad scientific principles underlying computational chemistry, thus providing a sound theoretical base.

• To achieve mastery of software applications used in computational chemistry.

• To develop in students a thorough understanding of the methods of computational chemistry and competence in their application, so that students are able to comprehend and analyse problems and obtain satisfactory solutions which show both originality and resourcefulness.

• To prepare students for possible careers in industry by using applications and problems that are relevant to industry.

• To prepare students for possible PhD studies by providing a general base from which specialised PhD research may proceed.

• To develop in students mastery of the most modern technology in the delivery of education, knowledge networks and informational retrieval by the
Entry requirements

Use of interactive World Wide Web (WWW) pages. (This technology will include quality calculations performed over the Internet by students, interactive self-assessment pages, use of molecular images, and many other materials. This innovative approach encourages self-paced learning with the students taking responsibility for their own learning. At the same time it allows rapid and effective access to tutors and to other students).

- To produce graduates who can fully take advantage of the revolution in information technology and play a constructive role in the changes that this technology brings to society.

In order to achieve these aims, students will undertake most of their studies via the Internet. A small research project will be undertaken at one of the sponsoring universities. The course aims to utilise expertise from several universities to provide an educational experience that would not be available in one university.

Campus
Hawthorn/Distance Education.

Career opportunities
Computational chemistry is a new science with considerable potential to assist industries such as the pharmaceutical industry and industries involved in designing new materials. Few students are currently trained in this area. Industry demand for high level skills in this new science can currently only be met by hiring persons who have undertaken research degrees in one or the specialised areas within computational chemistry.

Course duration
Twelve months full-time or equivalent part-time.

Structure
Largely offered via the Internet, this course is provided jointly by Swinburne – Hawthorn campus, Northern Territory University, Victorian College of Pharmacy – Monash University, and the University of Tasmania.

The full-time course includes:
1. Eight months of coursework which may be completed by Distance Education using the Internet.
2. A period of one month during which the student will carry out a series of intensive exercises to finalise assessment on the units carried out in 1. The purpose of these exercises is to consolidate the work carried out on the Internet and to ensure that the work carried out previously is the student’s own work.
3. A three month period of full-time on campus study in one of the participating universities in which the student will carry out a research and write a thesis. The project report will be examined by the supervisor and one other person.

Part-time study
The period of Distance Education using the Internet, extending over a period of eight months for full-time students may be extended up to twenty months for part-time students. The other components will normally be available only on a full-time basis.

Course subjects
Compulsory Topics
HSC900 The Scope of Computational Chemistry
HSC901 Molecular Modelling
HSC902 Approximate Quantum Chemistry
HSC903 Basic Quantitative Structure Activity Relationships (QSAR)
HSC904 Ab initio Quantum Chemistry
HSC905 Molecular Mechanics and Dynamics

Electives (one of):
HSC906 Advanced Molecular Modelling
HSC907 Advanced ab initio Quantum Chemistry
HSC908 Advanced QSAR

All students
HSC909 Research Project and Report

Application procedure
Candidates must submit an application form to the administrator at the University where they feel they are most likely to do their research project.

Further information
Dr Margaret Wong, School of Engineering & Science
Telephone: +61 3 9214 8542
Fax: +61 3 9819 0834
Email: mgw@swin.edu.au

BUSINESS, INNOVATION and MANAGEMENT

ACCOUNTING

A177 Graduate Certificate of Accounting
A187 Graduate Diploma of Accounting
A197 Master of Accounting

Accounting is the language of business and skills mastered in its study are relevant to many areas of professional interest: marketing, economic forecasting, finance, engineering and many others. A knowledge of accounting and finance can help individuals and business organisations understand how to use money (resources) to the best advantage. Gaining and maintaining wealth are important elements in a market economy.

The Graduate Certificate of Accounting develops the technical, practical, analytical and creative skills necessary to support a successful career in accounting and finance. It provides an entry level into tertiary study and the ability to obtain a tertiary qualification for appropriately qualified candidates. Successful completion of the course is the first stage in a nested program leading to the Graduate Diploma and Master of Accounting.

The Graduate Diploma of Accounting builds on the skills and knowledge acquired in the Graduate Certificate. It further develops the analytical and creative skills necessary when dealing with accounting and finance issues within planning and decision making. On completion of the course graduates can expect to have developed the requisite skills to continue with further postgraduate study at the Master or MBA level.

The Master of Accounting offers participants the opportunity to specialise in Accounting for Professional recognition. On completion of the course graduates can expect to have developed the requisite skills to qualify with the professional bodies of CPA Australia and ICAA.

Aims & Objectives
At the completion of the course graduates can expect to:
- Have developed the basic technical and practical skills necessary to support a successful career in accounting and finance.
- Be equipped with suitable skills to continue with further postgraduate study in accounting and finance.

Campus
Hawthorn

Career opportunities
This course provides an avenue for graduates to achieve professional recognition and help fill the shortage of professionally recognised accountants. As many candidates may already be established in a business career, the key vocational outcomes will arise from better current job performance together with new opportunities opening in the accounting and finance areas.

Professional recognition
On completion of the Master degree, graduates will become provisional members of CPA Australia and be eligible for admission into the CPA program and the Professional Year Programme of the ICAA.
Graduates who hold an accounting qualification from a recognised overseas university or equivalent, upon successful completion of the Graduate Diploma of Accounting are normally eligible for membership of the CPA Australia.

**Course duration**

Graduate Certificate: One semester full-time or one year part-time.

Graduate Diploma: One year full-time or two years part-time.

Master: One and a half years full-time or three years part-time. Four years part-time for students without an undergraduate degree.

**Structure**

Students normally enrol for four subjects per semester for full-time study or two subjects per semester for part-time study. Each semester is of 12 weeks duration with the equivalent of three hours of class contact per week, per subject. Part-time classes will normally be held between 8.00am and 1.00pm on Saturdays.

**Course subjects**

**Year 1 (Graduate Certificate)**

HBC454 Accounting Principles
HBC455 Accounting Information Systems
HBC456 Managerial Accounting
HBC457 Business Modelling and Analysis

**Year 2 (Graduate Diploma)**

HBC529 Corporate Financial Management
HBC531 Financial Reporting
HBE530 Economics
HBL528 Australian Company Law

**Year 3 (Master)**

HBC613 Advanced Managerial Accounting
HBC614 Company Auditing
HBC615 Financial Accounting Theory
HBC616 Income Tax Law

Students without an undergraduate degree are required to complete an additional four subjects:

HBC617 Financial Risk Management, or approved elective
HBC618 Personal Investment, or approved elective
HBC622 Research Methodology and Report

**Entry requirements**

Applicants should normally hold an undergraduate degree in any discipline other than accounting and finance from a recognised university or equivalent institution. Places will also be available to applicants without tertiary qualifications but who have five years approved work experience.

Applicants who have completed the Graduate Diploma with a credit average or have five years approved work experience.

**Application procedure**

Application forms are available from the School of Business.

**Further information**

Contact the School of Business on +61 3 9214 5046 or the Course Convenor, Mr Keith Turpie, on +61 3 9214 8473
Fax: +61 3 9019 2117
Email: busheh@swin.edu.au

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**BUSINESS ADMINISTRATION**

**B270 Graduate Certificate of Business Administration**

**B280 Graduate Diploma of Business Administration**

**B290 Master of Business Administration (MBA)**

The Graduate Certificate of Business Administration is designed to provide entry level management studies for managers with excellent business experience. The Graduate Certificate is an attractive alternative for those without any formal undergraduate qualifications. The key vocational outcome of this course is improved job performance and enhanced employment prospects, particularly in the fields of management and administration. Graduates of this award are eligible to apply for the Graduate Diploma of Business Administration.

The Graduate Diploma of Business Administration is offered for qualified executives or potential executives who have not undertaken significant studies in administration and management fields but feel the need for a broader knowledge of this area.

After completion of this program graduates have the opportunity to progress to Stage 3 of the Master of Business Administration (MBA) program. The Swinburne MBA not only offers the opportunity to acquire contemporary management knowledge and skills, it also provides students with the ability to apply that knowledge in an innovative, creative and entrepreneurial way.

The Swinburne MBA’s overarching themes of entrepreneurship, innovation and international business address the transitional realities of moving from the old to the new economy in four key areas: Leadership, Strategy, eBusiness, and Finance.

Specialisations in these four key areas are offered through advanced electives and an integrating project.

**Aims & Objectives**

The Swinburne MBA is designed to:

* Develop the capacity to successfully start new ventures and manage enterprises that operate in a complex, global and competitive environment.
* Meet the demands of business and industry to achieve and sustain international competitive advantage.
* Apply the theory to ‘real-life’ situations.
* Offer small, highly interactive and dynamic classes, delivered by commercially experienced practitioners and academics carefully selected for their practicality, excellence in teaching and outstanding performance in both intellectual and business practice.

At the completion of the program, it is expected that graduates will:

* Have a deep understanding of innovation processes and what it takes to commercialise and manage the practical application of innovation.
* Be recognised for their hands-on leadership ability, enhanced by an experiential understanding of the multifaceted factors that are required to develop new initiatives or to transform mature enterprises.
* Have a clear understanding of the new realities (old versus new economy) facing enterprises and be capable of operating effectively in such an environment.
* Have the capacity to develop and maintain an organisational culture which values creativity, diversity and a cross disciplinary approach to managing organisational effectiveness.
* Have a range of skills and knowledge that enhances business communication and leadership.
* Be renowned for their capacity to ‘make a difference’.

**Campus**

Hawthorn; Workplace Training

**Career opportunities**

The new Swinburne MBA Suite prepares students for a successful career in starting and/or managing high growth enterprises in a complex, global and competitive environment.

**Course duration**

Graduate Certificate: Two trimesters part-time or one trimester full-time.

Graduate Diploma: Two trimesters part-time or one trimester full-time.

Stage 3 of the Master of Business Administration (MBA) program. The Swinburne MBA not only offers the opportunity to acquire contemporary management knowledge and skills, it also provides students with the ability to apply that knowledge in an innovative, creative and entrepreneurial way.

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**Aims & Objectives**

The Swinburne MBA is designed to:

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**Campus**

Hawthorn; Workplace Training

**Career opportunities**

The new Swinburne MBA Suite prepares students for a successful career in starting and/or managing high growth enterprises in a complex, global and competitive environment.

**Course duration**

Graduate Certificate: Two trimesters part-time or one trimester full-time.
Graduate Diploma: Five trimesters part-time or two to three trimesters full-time.
Masters: Seven trimesters part-time or three trimesters of full-time study.

**Structure**

The Master of Business Administration (MBA) incorporates the Graduate Certificate and Graduate Diploma of Business Administration. The nested program is styled on a “4+6+4” basis.

The Graduate Certificate of Business Administration consists of 4 core subjects (Stage 1 of the MBA suite). These are normally completed over two trimesters of part-time study, or may be completed in one trimester of full-time study. Stage 1 of the program, in particular, requires a substantial commitment to developing basic skills. To complete the Graduate Certificate of Business Administration, students must successfully complete the four core subjects of Stage 1 of the program.

The Graduate Diploma of Business Administration consists of the 4 core subjects from the Graduate Certificate of Business Administration (Stage 1 of the MBA suite) plus a further 6 core subjects. These additional 6 core subjects (four core subjects in Stage 2 of the MBA suite with the inclusion of two Stage 3 core subjects) are normally completed over an additional three trimesters of part-time study, or may be completed in an additional two trimesters of full-time study. To complete the Graduate Diploma of Business Administration, students must successfully complete 10 subjects - the four core subjects of Stage 1 and the six core subjects of Stage 2.

The MBA thus consists of the 10 subjects of the Graduate Diploma of Business Administration (the MBA core) plus two advanced electives and an Integrating Project equivalent to two subjects; or instead of doing the Project a student can do a total of four advanced electives. These final four Stage 3 subjects are normally completed over an additional two trimesters of part-time study or may be completed in one additional trimester full-time. To complete the Master of Business Administration, students must successfully complete 14 subjects - the four core subjects in Stage 1, the six core subjects in Stage 2, and either the two advanced electives of Stage 3 and the Integrating Project (equal to 2 subjects) or four advanced electives.

The Graduate Certificate of Business Administration equals 50 credit points, the Graduate Diploma of Business Administration equals a further 75 credit points and the Master of Business Administration equals 150 credit points, giving a total of 175 credit points for the complete MBA suite.

**Course subjects**

**Stage 1 (Graduate Certificate)**

- HGM501 Organisation Dynamics
- HGM502 Strategic Marketing
- HGM503 Financial Data and Decision Making
- HGM505 Opportunity Evaluation

**Stage 2 (Graduate Diploma)**

- HGM551 Leading, Following and Team Dynamics
- HGM552 Finance for High Growth Businesses
- HGM553 The Business Plan
- HGM554 eBusiness Design for Competitive Advantage
- HGM604 Entrepreneurial Strategy
- HGM605 Innovative Leadership

**Stage 3 (Master)**

- HGM6XX Advanced Elective 1
- HGM6XX Advanced Elective 2
- HGM601 Integrating Project (half unit)
- HGM602 Integrating Project (half unit)
- HGM603 Integrating Project (full unit), OR
- HGM6XX Advanced Elective 1
- HGM6XX Advanced Elective 2
- HGM6XX Advanced Elective 3
- HGM6XX Advanced Elective 4
- Advanced Electives include:
  - HGM606 Consulting Processes for Organisations
  - HGM607 Organisational Change Management

**Entry requirements**

The formal admission requirement for the MBA program is an appropriate undergraduate qualification at a credit level (GPA 2.5, GMAT 600+ or equivalent) from a recognised tertiary institution. In some cases, additional preliminary study may be required. Candidates who do not hold an appropriate qualification but who have significant relevant work experience (normally five years or more) and evidence of academic capability may initially be admitted to the Graduate Certificate (Stage 1).

Students whose first language is not English will need to provide evidence of advanced proficiency in written and spoken English either by: International English Language Testing System (IELTS) Band 6.5 with no single band less than 6.0; or Test of English as a Foreign Language (TOEFL) 580 with TWE score not less than 4.5. Applicants with lower scores may undertake additional English studies (ELCOS) at Swinburne University in order to meet the entry requirements.

**Application procedure**

Application forms are available from the Australian Graduate School of Entrepreneurship (AGSE) or can be downloaded from the AGSE website.

**Further information**

Contact the Australian Graduate School of Entrepreneurship (AGSE)
Telephone: +61 3 9214 8512/5241
Email: agse@swin.edu.au
Website: www.swin.edu.au/agse

**A007 Doctor of Business Administration (DBA)**

Business executives are required to operate in a turbulent environment where competition is global, change is the norm, and where radical discontinuities present ever changing decision making frames. Excellence in entrepreneurship, strategic management and organisational change management are essential to develop effective corporate executives and hence organisational viability.

The Swinburne DBA aims to develop high calibre executives with managerial and applied research skills by employing three critical integrating lenses on organisations:

- Entrepreneurship: Opportunity Based Management.
- Strategy: Achieving Competitive Advantage.

**Aims & Objectives**

The DBA aims to:

- Bring theory and practice to bear on decision making in complex organisational environments in order to help these institutions adapt to changing circumstances and to lay the foundations for long term organisational survival.
- Encourage innovative thinking within the spirit of a risk taking enterprise.
- Maintain a strong service orientation to all facets of the business.
- Maintain cultures which value cross disciplinary approaches and the management of diversity.
- Provide a rigorous basis for applied workplace research.
- Develop teamwork and effective communication skills.
- Recognise the influence of technology in bringing about organisational change.

**Campus**

Hawthorn
Course duration
Two and a half years full-time or four years part-time.

Structure
The DBA is essentially a research degree with 30% of assessment being devoted to coursework outcomes and 70% devoted to research. Consideration will be given to granting appropriate candidates ‘advanced standing’ in the coursework/research components. However, it must be noted that the Practicum is a forum for the exploration of issues associated with each person’s thesis, including formulation of the research question, rationale for methods etc. and is therefore a vital aspect of work for the thesis.

Course subjects
**Full-Time Program**

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<th>1st Half Year</th>
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<td>HDBA801 Entrepreneurship: Opportunity Based Management</td>
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* Candidates may complete within four half years depending on their progress with the thesis.

**Part-Time Program**

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<td>HDBA801 Entrepreneurship: Opportunity Bases Management</td>
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** Candidates may complete within eight half years depending on their progress with the thesis.

Entry requirements
The formal admission requirements for the DBA Program are:

- A Master of Business Administration degree at a credit level from Swinburne University of Technology or another recognised university, or
- Another approved coursework Masters degree at a credit level in a management related area relevant to the management of organisations, or
- Qualifications accepted as equivalent by the DBA Director, or
- A Masters degree at a credit level in a field other than business, plus a Bridging Program*.
- A research based Master degree in Business Administration or related area, and
- At least five years of full-time, post-university managerial work experience in a field related to the candidate's thesis topics.
- English Language

All programs at Swinburne are taught in English. Applicants whose first language is not English and who have not completed a degree in the English medium, must produce evidence of advanced proficiency in written and spoken English by attaining: IELTS Band 7.0 with no single band less than 6.5. Applicants with lower scores may undertake additional English studies (ELICOS) at Swinburne University in order to meet the entry requirements.

Admission will also be subject to interview.

* Where applicants do not have the minimum entry requirements in terms of Masters level subjects to undertake the DBA, but hold a Masters degree or equivalent, a Bridging Program is available. Bridging studies will be negotiated with each applicant in accordance with their qualifications.

Application procedure
Application forms are available from the Australian Graduate School of Entrepreneurship (AGSE) or can be downloaded from the AGSE website.

Further information
Contact the Australian Graduate School of Entrepreneurship (AGSE)
Telephone: +61 3 9214 8512/5241
Email: agse@swin.edu.au
Website: www.swin.edu.au/agse

**eBUSINESS and COMMUNICATION**

L075 Graduate Certificate of Business (eBusiness and Communication)
L082 Graduate Diploma of Business (eBusiness and Communication)
L085 Master of Business (eBusiness and Communication)

The Graduate Certificate in eBusiness and Communication has been developed to meet the business demand to understand the paradigm shift in both corporate and small business cultures. The flexible approach (seminars and online component) makes postgraduate studies achievable for the wider community, while maintaining academic rigour.

The Graduate Diploma in eBusiness and Communication is designed to be accessible to a wide range of business managers and other people, in terms of modes of learning (on campus, intensive, in-house, distance learning), timing, work-based learning activities and use of individual learning contracts. Learning activities include on-line, virtual team activities.

The Master of Business (eBusiness and Communication) prepares students for a successful career in starting or managing eBusiness enterprises, including business owners, consultants, managers and specialist professionals. The program offers the opportunity to become familiar and confident, in all aspects of eBusiness, in readiness for effective management in a complex, competitive and global environment.

Aims & Objectives
The objective of this program is to introduce students to the practice of eBusiness and Communication today and its impact on management, communications, information technology and the business environment. All assessment tasks have immediate practical benefits in the workforce and their scope includes human factors, ethical issues, sustainability, community and culture and globalisation.

At the completion of the program, it is expected that graduates will:
Course subjects

<table>
<thead>
<tr>
<th>Graduate Certificate level</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEB500 Managing the Transition to eBusiness</td>
</tr>
<tr>
<td>LEB503 The eBusiness Environment</td>
</tr>
<tr>
<td>Plus two subjects chosen from:</td>
</tr>
<tr>
<td>LEB501 Communication and Electronic Culture</td>
</tr>
<tr>
<td>LEB502 Business Information Systems and Technology for Managers</td>
</tr>
<tr>
<td>LEB507 Designing Multimedia Presentations for Business</td>
</tr>
<tr>
<td>LEB508 Sustainability, eBusiness and Triple Bottom Line</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Graduate Diploma level</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEB600 eBusiness Design for Competitive Advantage</td>
</tr>
<tr>
<td>LEB601 eMarketing and Customer Relationship Management</td>
</tr>
<tr>
<td>Plus two subjects chosen from:</td>
</tr>
<tr>
<td>LEB602 Managing Strategic Cost and Performance in eBusiness</td>
</tr>
<tr>
<td>LEB603 Managing Human Resources in eBusiness Environments</td>
</tr>
<tr>
<td>LEB607 Using Multimedia for Knowledge Management</td>
</tr>
<tr>
<td>LEB608 Sustainability Indicators and eBusiness Performance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Masters level</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEB700 Strategic Transformation and Entrepreneurial eBusiness</td>
</tr>
<tr>
<td>LEB701 Virtual Communities - eBusiness and Society</td>
</tr>
<tr>
<td>LEB800 eBusiness and Communication Work Integrated Project (25 points)</td>
</tr>
<tr>
<td>Plus two subjects chosen from:</td>
</tr>
<tr>
<td>LEB702 Building an Integrated eBusiness Infrastructure</td>
</tr>
<tr>
<td>LEB703 eBusiness Regulation</td>
</tr>
<tr>
<td>LEB705 Interactive Multimedia Production for Business</td>
</tr>
<tr>
<td>LEB706 Global Sustainability</td>
</tr>
</tbody>
</table>

Other subjects available for in-house or negotiated customisation programs only include: |
| LEB504 eBusiness and Communication Project |
| LEB505 eBusiness Virtual Learning Project |
| LEB506 Finance for eBusiness Managers |
| LEB508 Learning Organisations and Systems Thinking |
| LEB504 Research Methods for eBusiness Work-Based Projects |
| LEB505 International eTrading and Finance |
| LEB506 Cultural and Intercultural Implications of Globalisation |
| LEB704 Community, Sustainability and Multimedia Project |

These may be substituted at the appropriate level by negotiation only.

Entry requirements

An undergraduate qualification at a credit level (GPA 2.5, GMAT 550 or equivalent) from a recognised tertiary institution. In some cases, additional preliminary study may be required. Applicants who do not hold an appropriate qualification but who have significant work experience (normally five years or more) and evidence of academic capability where possible, may initially be admitted to the Graduate Certificate (level 500). Their progression to enrolment in the Masters will require satisfactory completion of the Graduate Certificate and Graduate Diploma. Students whose first language is not English will need to provide evidence of advanced proficiency in written and spoken English by either:

- International English Language Testing System (IELTS) Band 6.5 with no single band less than 6.0; or
- Test of English as a Foreign Language (TOEFL) 580 with TWE score of not less than 4.0.

Application procedure

Applications must be made direct to Swinburne Lilydale.

Further information

Contact the Centre for eBusiness and Communication, Swinburne Lilydale

Telephone: +61 3 9735 6000
ENTREPRENEURSHIP and INNOVATION

Y072 Graduate Certificate of Entrepreneurship and Innovation

Y082 Graduate Diploma of Entrepreneurship and Innovation

Y091 Master of Entrepreneurship and Innovation (MEI)

This program has been developed for people who intend to start new, innovative businesses or play a leading role in an innovative unit of an established organisation. The core of the program provides the theoretical and practical skills required to produce a comprehensive business plan integrating marketing, organisational behaviour and financial planning via a flexible corporate strategy. This program provides professional capabilities not only to potential entrepreneurs, but also to ‘entrepreneurial professionals’ and managers with an entrepreneurial outlook who wish to stay within an organisation and practise entrepreneurship by generating new ventures under the corporate umbrella.

The first eight subjects of the Master of Entrepreneurship and Innovation program are those outlined for the Graduate Certificate and the Graduate Diploma of Entrepreneurship and Innovation. The final four subjects extend the student beyond the frontiers of new venture business planning to a greater depth of understanding of the theory and practice of ongoing entrepreneurship. Teaching methods also change to include a greater emphasis on case analysis and self-initiated projects.

The Graduate Certificate of Entrepreneurship and Innovation provides the basic entry level award for people seeking careers and qualifications in the management of innovation, or it may serve to broaden the skills of managers qualified in other tertiary disciplines.

Aims & Objectives

The primary aims of the program are:

- To emphasise the management of change and new opportunities rather than administration of established practices.
- To develop a concentration on the planning and control of rapid business growth.
- To devote constant attention to integrating knowledge through interdisciplinary approaches, rather than separating knowledge into functional specialties.
- To commit to the notion of “theory for practice’s sake” - applying leading edge theory to seek practical solutions to complex real-world problems.

It has been shown that graduates of this integrated program are capable of starting, developing and managing new business opportunities to achieve company growth.

Campus

Hawthorn

Career opportunities

Successfully start and/or develop new enterprises, and enhance career development within organisations.

Course duration

Graduate Certificate: One semester full-time or one year part-time.
Graduate Diploma: One year full-time or two years part-time.
Masters: One and a half years full-time or three years part-time.

Structure

Each subject is taught in the traditional mode of one (three-hour) night class per week over a twelve week semester or in ‘block mode’ (usually three two-day block modules). Students are expected to spend a minimum of the equivalent class contact hours per week in private study and/or team project work. The Graduate Certificate can also be offered as an in-house training program for companies or other organisations.

Course subjects

Full-Time Program

Semester 1 (Graduate Certificate)

HEI611 The Entrepreneurial Organisation

HEI691 Opportunity Evaluation
HEI621 New Venture Finance
HEI631 New Venture Marketing

Semester 2 (Graduate Diploma)

HEI711 Managing The Growing Business
HEI721 Financial and Legal Strategies
HEI741 Creativity and Innovation
HEI791 The Business Plan

Semester 3 (Masters)

HEI821 Growth Venture Evaluation
HEI851 Entrepreneurial Strategy
HEI8XX Advanced Elective(s)

One advanced elective to be chosen from:

HEI800 Supervised Practical Project (Double Unit)
HEI881 Entrepreneurial Research Project (Double Unit)

OR two advanced elective units to be chosen from:

HEI831 Global Markets (Single Unit)
HEI891 Entrepreneurial Growth Project (Single Unit)

XXXXXX Approved subject from other postgraduate programs*

Part-Time Program

Year 1 (Graduate Certificate)

Semester 1

HEI611 The Entrepreneurial Organisation
HEI691 Opportunity Evaluation

Semester 2

HEI631 New Venture Marketing
HEI621 New Venture Finance

Year 2 (Graduate Diploma)

Semester 1

HEI711 Managing The Growing Business
HEI721 Financial and Legal Strategies

Semester 2

HEI741 Creativity and Innovation
HEI791 The Business Plan

Year 3 (Masters)

Semester 1

HEI821 Growth Venture Evaluation
HEI851 Entrepreneurial Strategy
HEI8XX Advanced Elective(s)

One advanced elective to be chosen from:

HEI800 Supervised Practical Project (Double Unit)
HEI881 Entrepreneurial Research Project (Double Unit)

OR two advanced elective units to be chosen from:

HEI831 Global Markets (Single Unit)
HEI891 Entrepreneurial Growth Project (Single Unit)

XXXXXX Approved subject from other postgraduate programs*

* These include subjects approved by the MEI course director. These may be selected from appropriate levels of other AGSE programs, for example, subjects from the MBA program.

Appropriate levels of other postgraduate programs at Swinburne.

Entry requirements

There are no prerequisites for entry to the Graduate Certificate other than discipline and commitment to a task, role or project requiring skills in the management of innovation. A tertiary qualification would be an advantage.
Applicants may be admitted to the program at the considered discretion of the Selection Committee.

Applicants at Graduate Diploma level should comply with one of the following:
- The completion of a degree or diploma with experience in new business creation.
- The completion of the Graduate Certificate of Entrepreneurship and Innovation.

A limited number of applicants not meeting the criteria above may be admitted after interview on the basis of considerable relevant experience and level of responsibility in industry or business.

Applicants for the Masters degree should comply with one of the following:
- The completion of a degree or diploma with at least four years of full-time work experience in new business creation.
- The completion of the Graduate Diploma in Entrepreneurship and Innovation.

A limited number of applicants not meeting the criteria above may be admitted after interview on the basis of considerable relevant experience (normally five years or more) and level of responsibility in industry or business.

Application procedure
Application forms are available from the Australian Graduate School of Entrepreneurship (AGSE) or can be downloaded from the AGSE website.

Further information
Contact the Australian Graduate School of Entrepreneurship (AGSE)
Telephone: +61 3 9214 8512/5241
Email: agse@swin.edu.au
Website: www.swin.edu.au/agse

HUMAN RESOURCE MANAGEMENT

A181 Graduate Diploma of Business (Human Resource Management)

A196 Master of Business (Human Resource Management)

The Master of Business (Human Resource Management) seeks to provide for the ongoing development of HR practitioners in the areas of organisation behaviour, business strategy and entrepreneurial thinking. Given the current context in which business enterprises (SMEs, multinationals, public, private, local and global organisations) operate, all need strategically astute, business outcome focussed, innovative and entrepreneurial HR practitioners who can demonstrate business acumen and deliver outcomes.

The Master of Business (Human Resource Management) provides an unique opportunity for students to gain specialised HRM and business knowledge through coursework and then apply that knowledge through research and preparing a entrepreneurial strategic workplace project. In preparing this project, students gain practical experience in business research, which is a vital aspect of good HRM practice.

Aims & Objectives
At the completion of the course, graduates can expect to have developed advanced skills and knowledge in analysis, strategy, entrepreneurial thinking, and organisational behaviour.

Campus
Hawthorn

Career opportunities
This course provides an avenue for graduates to gain theoretical and practical skills in and knowledge of human resource management and business practices. As many course participants may already be established in a business career, the key vocational outcomes will arise from better job performance, new opportunities opening up to graduates and enhancement of the HRM profession in general.

Professional recognition
The Graduate Certificate of Business (Human Resource Management) and the Graduate Diploma of Business (Human Resource Management) have been awarded accreditation by the Australian Human Resources Institute. Accreditation is currently being sought for the Masters year.

Course duration
Graduate Diploma: One year full-time or two years part-time.
Masters: One and a half years full-time or three years part-time.

Structure
As a nested program, applicants may enter the Master at Stage 1 (Graduate Certificate level) and progress through to Stage 2 (Graduate Diploma level) and Stage 3 (Master level). However, progress from Stage 2 to 3 will be dependent on the achievement of a credit average or better across both Stages 1 and 2 of the program.

The duration of the course will depend on the point at which a student enters the program (see Entry Requirements). The Graduate Certificate forms the first year of the program. The Graduate Diploma forms the second year of the program. Students who go on to the Master component of the program will be expected to complete coursework and an Entrepreneurial Strategic Workplace Research Project of 15,000 - 20,000 words.

Students normally undertake four subjects per semester for full-time study, or two subjects per semester for part-time. At the Graduate Certificate stage each subject is taught in a weekly 2 hour class with one Saturday workshop per semester. At the Graduate Diploma stage, each subject is taught in a weekly 2.5 hour class. A semester is 12 weeks in length. At the Master stage, students would normally enrol for three subjects per semester which includes the Entrepreneurial Strategic Workplace Research Proposal and Project subjects.

Course subjects
Stage 1 (Graduate Certificate)
HRM001 Performance & Reward Management
HRM002 Employee Relations
ONH200 Recruitment and Selection
ONH300 Human Resource Development

Stage 2 (Graduate Diploma)
HBH520 HR Manager as Internal Consultant
HBH522 Managing People across Cultures
HBH524 HRM and Business Systems
HBH525 HRM, Marketing and Business Research

Stage 3 (Master)
HBH620 Strategic HRM in the Business Context
HBH621 Organisational Context and Dynamics
HBH622 Entrepreneurial Strategic Workplace Research Proposal
HBH623 Business Transformation and the Entrepreneurial HR Manager
HBH624 Entrepreneurial Strategic Workplace Research Project

Entry requirements
To gain admission to the Master program, applicants will be expected to have:
- An approved undergraduate qualification and at least three years’ relevant business experience or, for those without a degree, at least five years’ relevant work experience at an appropriate level of responsibility to enter the Graduate Certificate program.
- An approved undergraduate qualification with a major in HRM and at least three years of relevant business experience or, for those without a degree, at least five years relevant HRM experience at an appropriate level of responsibility to enter the Graduate Diploma program.
- Applicants who have completed the requirements for the Graduate Diploma with a credit average or better may be admitted to the Master of Business (HRM).

Exemption and RPL policies will vary the entry points.

Application procedure
Application forms are available from the School of Business.

Further information
Contact the School of Business on +61 3 9214 5046
MARKETING

A171  Graduate Certificate of Business (Marketing)
A186  Graduate Diploma of Business (Marketing)
A195  Master of Business (Marketing)

This postgraduate program in marketing offers participants the opportunity to gain specialist knowledge in marketing. Marketing has become one of the most significant and powerful tools in the world of business and its study is relevant to all areas of business life. A knowledge of marketing can help individuals and business organisations understand how to use their resources to the best advantage. It can provide vital information about how best to handle the good and bad times in business life.

The Masters program provides an unique opportunity for students to gain specialised marketing knowledge through coursework and then apply and extend that knowledge by researching and preparing a dissertation. In preparing their dissertation, students gain practical experience in research which is one of the most vital aspects of good marketing practice.

Aims & Objectives
At the completion of the course, graduates can expect to have developed advanced analytical and creative skills which are necessary when dealing with marketing issues in planning and decision making.

Campus
Hawthorn

Career opportunities
This course provides an avenue for graduates to gain theoretical and practical knowledge of marketing which can be applied in business. As many participants may already be established in a business career, the key vocational outcomes will arise from better current job performance together with new opportunities opening in the marketing area.

Course duration
Graduate Certificate: One semester full-time or one year part-time
Graduate Diploma: One year full-time or two years part-time
Master: One and a half years full-time or three years part-time

Structure
In the Graduate Certificate and Graduate Diploma years of the program, students would normally enrol in four subjects per semester for full-time study, or two subjects per semester for part-time. Each semester is of 12 weeks duration.

Students who enrol directly into the Graduate Diploma without doing the first year Graduate Certificate subjects will need to do an introductory subject, HBM520 Trends in Marketing, which will be conducted as a series of seminars. Classes will generally be held outside working hours.

Students who go on to the Master component of the program will be expected to complete a reading unit, a research methodology seminar and a dissertation of 25,000 - 30,000 words.

Course subjects
Year 1 (Graduate Certificate)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBM420</td>
<td>Marketing Fundamentals and Practices</td>
</tr>
<tr>
<td>HBM421</td>
<td>Market Behaviour</td>
</tr>
<tr>
<td>HBM422</td>
<td>Marketing Information for Decision Making</td>
</tr>
<tr>
<td>HBM423</td>
<td>Marketing Planning</td>
</tr>
</tbody>
</table>

Year 2 (Graduate Diploma)

Students who enrol directly into the Graduate Diploma without completing the Graduate Certificate must do the following introductory subject:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBM520</td>
<td>Trends in Marketing</td>
</tr>
</tbody>
</table>

All students must complete:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBM521</td>
<td>Project Management</td>
</tr>
</tbody>
</table>

And three subjects from the following list:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAL401</td>
<td>Cultural Convergence</td>
</tr>
</tbody>
</table>

Year 3 (Master)

Alternative 1

<table>
<thead>
<tr>
<th>Subject</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBM620</td>
<td>Research Methodology</td>
</tr>
<tr>
<td>HBM622</td>
<td>Action Research Project</td>
</tr>
<tr>
<td>HBM525</td>
<td>Marketing Decision Tools</td>
</tr>
<tr>
<td>HBM526</td>
<td>Information Analysis</td>
</tr>
<tr>
<td>HBM621</td>
<td>Advanced Reading Unit, OR</td>
</tr>
</tbody>
</table>

One elective chosen from Year 2 subjects in the program

Alternative 2

<table>
<thead>
<tr>
<th>Subject</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBM620</td>
<td>Research Methodology</td>
</tr>
<tr>
<td>HBM623</td>
<td>Integrating Project in Marketing</td>
</tr>
<tr>
<td>HBM525</td>
<td>Marketing Decision Tools</td>
</tr>
<tr>
<td>HBM526</td>
<td>Information Analysis, OR</td>
</tr>
</tbody>
</table>

Two electives chosen from Year 2 subjects in the program

Entry requirements
Applicants for entry into the first year (Graduate Certificate) should normally hold an undergraduate degree in any discipline other than marketing from a recognised university or equivalent institution and have at least two years relevant business experience. Places will also be available to applicants without tertiary qualifications but who have extensive relevant business experience.

Applicants for entry directly into the second year of the Graduate Diploma should normally hold an undergraduate degree with at least a major in marketing and have at least two years’ relevant business experience.

Application procedure
Application forms are available from the School of Business.

Further information
Contact the School of Business on +61 3 9214 5046 or the Course Convenor, Ms Barbara Evans on +61 3 9214 8389. Fax: +61 3 9819 2117
Email: busheh@swin.edu.au
RESEARCH METHODOLOGY

A187  Graduate Diploma of Business (Research Methodology)

The Graduate Diploma of Business in Research Methodology is designed as a bridging course for students with an undergraduate qualification, but without substantial research experience, who wish to enter either a Masters by Research or Doctoral program. Participants will be exposed to academic research and presentation techniques which will assist them in gaining entry into a Masters by Research or Doctoral program.

Aims & Objectives

The Graduate Diploma of Business in Research Methodology aims to give students research skills necessary to enter a Masters by Research or Doctorate program.

Campus

Hawthorn

Course duration

One year full-time or equivalent part-time

Course subjects

HBG500  Business Research Methodology
HBG510  Business Research Project

Entry requirements

A degree of an appropriate level from a recognised tertiary institution or approved equivalent.

Application procedure

Application forms are available from the School of Business.

Further information

Contact the School of Business
Telephone: +61 3 9214 5046
Fax: +61 3 9819 2117
Email: busheh@swin.edu.au

STRATEGIC FORESIGHT

SF100  Graduate Certificate of Science (Strategic Foresight)

SF200  Graduate Diploma of Science (Strategic Foresight)

SF300  Master of Science (Strategic Foresight)

SF400  Professional Doctorate of Strategic Foresight

This nested program in strategic foresight prepares students for a successful career in foresight and strategy within a range of organisations. A guiding assumption of the program is that strategic foresight will be a cornerstone of organisational success in the turbulent 21st century environment. Those who master knowledge and skills in this innovative field will be well placed to become leaders in a wide range of fields.

The Graduate Diploma has been developed to provide more advanced insights into the changing nature and futures/foresight implications of the global system. Additionally, it links global foresight with organisational strategy, going beyond conventional year-to-year, annual planning cycles to embrace new conceptual and operational territory.

The Master of Science in Strategic Foresight will provide a sound theoretical and practical foundation for the successful practice of strategic foresight in many fields. The Masters degree will primarily appeal to those people who are already high achievers part-way through a career path and who wish to develop proactive approaches to their work, or perhaps to change direction. To these ends, the program provides the necessary grounding in futures studies and foresight work as well as a range of applied implementation options.

The Doctoral level of study involves developing graduates who have a leading role in the discipline of strategic foresight and who will provide examples of ‘cutting edge’ practice in their work.

The Professional Doctorate is only offered subject to numbers.

Aims & Objectives

Overall, the Graduate Certificate provides a grounding in foundational areas that support the foresight discipline. The main outcome is the ability to understand the nature of foresight and its successful practice in organisations. At the completion of the Masters Suite of programs, it is expected that students will have:

- Developed their skills and capacities as practitioners in the field who are committed to improving the foresight capability of organisations through understanding, developing and successfully applying coherent forward views.
- Developed ‘higher order thinking’ (or meta-learning) about developing human and organisational capacities to carry out productive foresight work.
- Strengthened their ability to conceptualise the complex relations between foresight and strategy in organisations.
- Deepened their understanding, through reflective experience, of how they might manage themselves as applied foresight practitioners in the role of leaders, managers, consultants or researchers when they engage in these professional roles.
- Explored ways of working collaboratively in order to understand and contribute to personal and organisational responses to complexity, uncertainty and turbulence in the 21st century environment.
- Become equipped to provide effective foresight capabilities of positive and continuing use to organisations.
- Become equipped to discern the many organisational opportunities that attend the complex processes of globalisation, social change and technical innovation.
- Established the foundations for study at the level of Professional Doctorate in Strategic Foresight.

The objectives of the Doctoral level build upon those of the Masters degree. Specifically students will be:

- Capable of self-management in working to the highest standards in the service of their professional research tasks and of all others involved.
- Capable of carrying out independent investigation into strategic foresight, the development and use of forward views, and a wide range of organisational implications embracing personnel selection and training, leadership, the development of new organisational roles and functions, new products and markets.
- Capable of a self-reflective stance in the engagement of their work.
- Capable of contributing to the further development and effective application of strategic foresight as an organisational capability.
- Capable of furthering the field of strategic foresight in an ethically and socially responsible manner.
- Capable of leading other professionals in the field.
- Able to relate organisational requirements and dynamics to the wider global context in which they are located.

Campus

Hawthorn

Career opportunities

Employment in foresight and strategy within a range of organisations.

Professional recognition

Graduates will be eligible for membership of the World Futures Studies Federation (WFSF). The Federation may also grant the status of Fellow to practitioners in advanced professional standing.

Career opportunities

Prepares students for a successful career in foresight and strategy within a range of organisations. A guiding assumption of the program is that Strategic Foresight will be a cornerstone of organisational success in the turbulent early 21st century.
Course duration

Graduate Certificate: One year full-time.
Graduate Diploma: Two years full-time.
Masters: Three years full-time.
Doctorate: Four years full-time (if taken as part of the nested suite), one year if completed on its own.

Structure

The Graduate Certificate of Science in Strategic Foresight consists of four subjects, each worth 12.5 credit points (4 subjects x 12.5 credit points/subject = 50 credit points). This represents one semester of full-time study (12 weeks x 3 hours/week x 4 subjects) or two semesters of part-time study. Some subjects may consist of a number of modules to allow simplicity and flexibility in course delivery.

The Graduate Diploma of Science in Strategic Foresight consists of the four subjects from the Graduate Certificate of Science in Strategic Foresight plus a further four subjects, making a total of eight subjects, each worth a total of 12.5 points.

The Master of Science in Strategic Foresight incorporates the Graduate Certificate and Graduate Diploma of Science in Strategic Foresight plus a further four subjects, making a total of twelve subjects, each worth 12.5 credit points. Students are required to complete subjects totalling 150 credit points (12 subjects x 12.5 credit points).

The Doctorate of Strategic Foresight is comprised of the following elements:

- A Doctoral Practicum: This is a year-long action learning project focused on the extension and development of the professional role of the candidate.
- Two reading units: These are designed to focus the candidate on his or her project that will form the basis of the minor thesis. The written work in these units will be incorporated into the final thesis. In this way, the final thesis will be completed in a step-like manner, thus supporting the candidates through the process.
- The Doctoral Thesis: This is based on a workplace project. It may be a small research project, an action research project, a consulting or workplace project designed to facilitate the application of foresight work within an organisation. It will necessitate a thorough understanding of the organisational and practical issues involved and demonstrate the candidate’s capacities for his or her future professional work in applied foresight. The thesis will normally not exceed 30,000 words.
- In addition, a methods seminar will initially be held for all students during the program, which is not examined but acts as a support to the thesis.

The teaching method for most units will be based on a combination of lectures, tutorials, classes, case studies, intensive weekends/block teaching periods, and seminars. This range of methods allows overseas work to be included and provides flexibility. The coursework will be supplemented by specific projects in applied foresight and by a special study or thesis.

Applications for exemptions will be considered on an individual basis. However, due to the nature of the foresight discipline, applicants at all levels will be required to take all four foundational units from Stage 1, as well as relevant units from Stages 2 and 3, depending upon their previous background and intended career path.

Course subjects

Stage 1 (Graduate Certificate)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSF601</td>
<td>Introduction to the Knowledge Base of Futures Studies and Foresight</td>
</tr>
<tr>
<td>HSF611</td>
<td>Implementing Foresight in Organisations</td>
</tr>
<tr>
<td>HSF621</td>
<td>Foresight Methodologies</td>
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<td>HSF631</td>
<td>Dimensions of Global Change</td>
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Stage 2 (Graduate Diploma)

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<td>HSF721</td>
<td>Outlook for the 21st Century</td>
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<tr>
<td>HSF731</td>
<td>Integral Futures Frameworks, OR</td>
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Stage 3 (Masters)

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<tr>
<td>HSF811</td>
<td>Foresight and Innovation</td>
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<tr>
<td>HSF831</td>
<td>The Triple Bottom Line and Sustainable Development</td>
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<tr>
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<td>Approved Advanced Elective*</td>
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<tr>
<td>XXXXXX</td>
<td>Approved Advanced Elective*</td>
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Stage 4 (Doctorate)

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<tr>
<td>HSF981</td>
<td>Doctoral Practicum</td>
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<tr>
<td>HSF982</td>
<td>Reading Unit A</td>
</tr>
<tr>
<td>HSF994</td>
<td>Reading Unit B</td>
</tr>
<tr>
<td>HSF995</td>
<td>Doctoral Thesis</td>
</tr>
</tbody>
</table>

* These include subjects approved by the Strategic Foresight course director. They may be selected from appropriate levels of other AGSE programs.

Entry requirements

A degree from a recognised tertiary institution, or approved equivalent, and appropriate advanced work experience. Candidates who do not hold a degree but have significant work experience may initially be enrolled in the Graduate Certificate level.

Application procedure

Application forms are available from the Australian Foresight Institute.

Further information

Contact the Australian Foresight Institute.
Telephone: +61 3 9214 5981
Email: agse@swin.edu.au
Website: www.aboutforesight.org

HIGHER DEGREES BY RESEARCH

A003 Doctor of Philosophy (Business)

Graduates who hold a Bachelor degree and who have shown a high standard of academic achievement in that course may be admitted to candidature for the degree of Doctor of Philosophy. The higher degrees programs currently available require the presentation of a major thesis based on original research, investigation or development work, carried out either within Swinburne or externally, providing that adequate facilities and supervision can be arranged. External work can be carried out in an approved industrial, governmental, educational or research organisation.

The Statute for the degree of Doctor of Philosophy sets out the regulations governing this qualification. See website: www.swin.edu.au/sgrs/regs/phdpolicy.htm

Aims & Objectives

The PhD degree provides training and education with the objective of producing graduates with the capacity to conduct research independently at a high level of originality and quality. The student ought to be capable, by the end of his/her candidature, of conceiving, designing and carrying to completion a research program without supervision. The PhD candidate should uncover new knowledge either by the discovery of facts, the formulation of theories or the innovative re-interpretation of known data and established ideas.

Campus

Hawthorn

Course duration

The expected normal duration of candidature is 3.5 years full-time or 6 years part-time.

Structure

Candidates normally undertake research at Swinburne for the appropriate duration and, especially part-time candidates and those based in industry, must be able to demonstrate to the satisfaction of the Committee that they are able to meet with
their supervisors in person to discuss progress at least once every calendar month or have made satisfactory arrangements for discussion to occur by other means e.g. via email.

All candidates are expected to demonstrate satisfactory progress on an annual basis. To be assessed for a Doctor of Philosophy, candidates must present a major thesis based on original research, investigation or development work carried out under Swinburne staff supervision either at Swinburne or externally.

Entry requirements
Applicants should have a Bachelor’s degree with honours (1st or 2nd class) or the equivalent in a discipline appropriate to the proposed area of study. The level of academic achievement in prior studies should be of a very high standard. Other relevant activities, including work experience, will be taken into account in assessing applications.

Application procedure
Applicants should initially consult with Professor Miles G Nicholls, Director of Research, School of Business, telephone +61 3 9214 8805 to discuss their proposed research direction and to determine that appropriate resources and facilities are available for the supervision of the proposed research.

Application forms can then be obtained by contacting the Swinburne Graduate Research School (SGRS) or downloaded from the SGRS website at: www.swin.edu.au/research/f/grad.htm and can be submitted at any time of the year.

Duly completed application forms must then be sent to Ms Sharman Feinberg, Mail No. 23, Swinburne University of Technology, PO Box 218, Hawthorn 3122, Victoria, Australia or delivered by hand to Business and Arts Building, Room BA1100 where they will be referred to the Joint Research Committee which meets on the last Friday of every month. Subsequently, applications are referred to the Higher Degrees Committee for final approval. Formal enrolment in the program takes place soon after.

Further information
Contact Professor Miles Nicholls on +61 3 9214 8805 or the School of Business
Telephone: +61 3 9214 5046
Fax: +61 3 9819 2117
Email: busheh@swin.edu.au

Y001 Doctor of Philosophy (PhD)
The Australian Graduate School of Entrepreneurship (AGSE) has a strong commitment to research in entrepreneurship, management and associated disciplines. There are currently many PhD theses in progress including research into the commercialisation of Australian research, government policy on the development and performance of small manufacturing businesses, factors influencing strategic alliances in high-tech industries and evaluating the value of training investment. There are also a small number of students undertaking Masters degrees by research.

Campus
Hawthorn

Application procedure
Application forms are available from the Australian Graduate School of Entrepreneurship (AGSE).

Further information
Contact the Australian Graduate School of Entrepreneurship (AGSE)
Telephone: +61 3 9214 8512/5241
Email: agse@swin.edu.au
Website: www.swin.edu.au/agse

A193 Master of Business (by research)
The School of Business offers the degree of Master (by research and thesis) on a full-time or part-time basis. The Statute for the degree of Master (by research and thesis) sets out the regulations governing this qualification. See website: www.swin.edu.au/research/welcome.htm under Research Policy.

Aims & Objectives
The Masters by Research degree generally has the objective of training students in research methodology and techniques and in their critical evaluation, appropriate to their field of study, and in the application of such methodology by conducting a specified program of research under appropriate supervision. In addition, this degree requires training in analysing the literature and debate in the substantive area of the thesis topic at an advanced level.

Campus
Hawthorn

Course duration
Two years full-time or four years part-time.

Structure
The candidate’s research program must be such as to ensure the likelihood of completion of a thesis within the specified time. Candidates normally undertake the research at Swinburne for the appropriate duration and (especially part-time candidates and those based in industry) must be able to demonstrate to the satisfaction of the Joint Research Committee and the Higher Degrees Committee that they are able to meet with their supervisors in person to discuss progress at least once every calendar month or have made satisfactory arrangements for discussion to occur by other means e.g. email.

All candidates are expected to demonstrate satisfactory progress on an annual basis. To be assessed for a Master by Research, candidates must present a major thesis based on original research, investigation or development work carried out under Swinburne staff supervision either at Swinburne or externally.

Entry requirements
Applicants should have at least a Bachelor’s degree or the equivalent in a discipline appropriate to the proposed area of study. The level of academic achievement in prior studies must be of a high standard. Other relevant activities including work experience will be taken into account in assessing applications.

Application procedure
Applicants should initially consult with Professor Miles G Nicholls, Director of Research, School of Business on +61 3 9214 8605 to discuss their proposed research direction and to determine that appropriate resources and facilities are available for the supervision of the proposed research.

Application forms can then be obtained by contacting the Swinburne Graduate Research School (SGRS) or downloaded from the SGRS Web site at: www.swin.edu.au/research/f/grad.htm and can be submitted at any time of the year.

Duly completed application forms must then be sent to Ms Sharman Feinberg, Mail No. 23, Swinburne University of Technology, PO Box 218, Hawthorn 3122, Victoria, Australia or delivered by hand to Business and Arts Building, Room BA1100 where they will be referred to the Joint Research Committee which meets on the last Friday of every month. Subsequently, applications are referred to the Higher Degrees Committee for final approval. Formal enrolment in the program takes place soon after.

Further information
Contact Professor Miles Nicholls on +61 3 9214 8605 or the School of Business
Telephone: +61 3 9214 5046
Fax: +61 3 9819 2117
Email: busheh@swin.edu.au
Aims & Objectives
- To broaden opportunities for access and participation in tertiary education system those currently employed in the business sector.
- To provide a re-entry to tertiary study for graduates who would benefit from a supportive learning environment.
- To provide an entry to postgraduate study for those people with excellent business experience but no formal undergraduate qualifications and who, by virtue of their age, experience, work responsibilities and other commitments, are excluded from undergraduate and TAFE certificate courses.
- To prepare candidates for further postgraduate studies in business information technology.

Campus
Hawthorn

Course duration
Six months full-time or one year part-time.

Structure
To cater for the diverse needs of a range of experienced applicants, the course consists of four subjects from the Graduate Diploma of Information Systems. Students are able to select subjects appropriate to their needs provided the prerequisite requirements of the subject are met. On completion of the Graduate Certificate of Information Systems, students gaining entry to the Graduate Diploma / Masters of Information Systems will be admitted with 'advanced standing'.

Course subjects
HIT7036 Information Technology Strategies
HIT8003 Business Analysis
plus 2 Graduate Diploma elective subjects.

Entry requirements
Significant business experience, normally at least four years. Students who hold a degree will be eligible for two exemptions from elective subjects.

Application procedure
Application forms are available from the School of Information Technology. Applications must be accompanied by a certified copy of original transcripts of official results.

Further information
Contact the School of Information Technology
Telephone: +61 3 9214 5505
Email: itinfo@swin.edu.au
Website: www.it.swin.edu.au

A097 Master of Information Systems
The School of Information Technology offers both coursework and research programs in Information Systems. The Master of Information Systems is concerned with the application of information technology to support organisations in the conduct of their business. It examines both the organisational issues and the techniques and technology required for the analysis, design and implementation of business solutions, with an emphasis on electronic commerce.

The Master of Information Systems is an advanced level program that focuses on the management of information systems, and is designed for professionals with significant industry experience. A variety of entry points is available depending on prior academic qualifications.

In addition to this program, the School offers more technically-oriented graduate studies in Information Systems, at graduate diploma and masters levels. Students of the Master of Information Systems program have the opportunity to select elective subjects from these other programs.

The School also offers research programs at masters and doctoral levels in Information Systems. Major research interests are in the fields of electronic commerce, the application of Internet-based technologies in organisations, information modelling and requirements engineering.

The Master of Information Systems program offers students the option of undertaking a minor research thesis.

Note that this course is designed for IT professionals and managers who have working experience with information systems. As an admission requirement, students must provide evidence of relevant business experience.

Key features of the Master of Information Systems:
- The course has flexible entry points with study programs designed to meet the needs of individual students.
- The course adds value through building on students’ strengths and experiences.
- The course content is designed to meet the current and future needs of employers.

Aims & Objectives
Key course aims and objectives for graduates:
- To enhance their career opportunities through developing expertise in the current approaches to the management of information technology.
- To enhance their career opportunities through developing expertise in the current approaches to the management of information technology.
- To be conversant with issues and directions in information technology.
- To have high level analytical and managerial skills to manage directions in information technology.

Campus
Hawthorn

Course duration
Three years part-time.

Structure
The course is offered on a part-time basis only: the total program takes a minimum of three years. However, in the case of students admitted directly to Stage 2A on the basis of previous qualifications, the course takes a minimum of two years.

Students who do not hold a degree must undertake the full program. Students who hold a degree will be eligible for exemption from the two elective subjects in Stage 1. Students who have a degree or graduate diploma in Information Systems may be eligible to commence the course at Stage 2 - Part A. Four program choices are available in Stage 2 - Part B. Most students undertake either Option 1 or Option 2. Options 2, 3 and 4 require explicit approval by the Program Manager.

A student who withdraws from the program prior to completion will be eligible for the award of Graduate Certificate in Information Systems, provided at least four subjects have been passed.

Electives
Electives are usually chosen from Graduate Diploma and Masters level subjects offered by the School of Information Technology. However, students need to ensure that the electives they choose are appropriate for the Stage in question and so the advice of the Program Manager must be sought.

Students must meet the prerequisite requirements of the electives they select. Availability of all electives is subject to timetabling and resource constraints.

Course subjects
Stage 1
HIT8003 Business Analysis
HIT7036 Information Technology Strategies
Plus two elective subjects

Stage 2 - Part A
HIT8035 Information Technology Effectiveness
HIT8032 Information Systems Management
HB6B04 Management, Organisations and People
HIT8090 Systems Project Management

Stage 2 - Part B
Option 1
HIT8012 Current Issues in Information Systems
HB6B02 Strategic Management

HIT7036 Information Technology Strategies
The Internet Software Development course provides a practical education in web-based systems. The program is aimed at professionals who have a degree in software development emphasising the object-oriented approach and the development of distributed systems. Students completing the Graduate Diploma in Information Technology courses offered by the school - Information Systems Applications, Information Systems Development, Internet Software Development. Selection of subjects will vary slightly between full-time and part-time students.

**Course subjects**

**Electronic Commerce Systems**

**Core subjects**

- HIT5012 Information Systems and Programming
- HIT5091 Web Development
- HIT6016 Database 1
- HIT7084 E-Commerce: A Business Perspective
- HIT7085 E-Commerce Systems Infrastructure
- HIT7086 E-Commerce Project

**Information Systems Applications**

Select four of the following:

- HIT5012 Information Systems and Programming
- HIT6006 Business Computing
- HIT6016 Database 1
- HIT6049 Systems Analysis and Design
- HIT7007 Business Computing Applications
- HIT7036 Information Technology Strategies
- HIT7084 E-Commerce: A Business Perspective
- HIT7085 E-Commerce Systems Infrastructure

**Information Systems Development**

Select four of the following:

- HIT5012 Information Systems and Programming
- HIT5091 Web Development
- HIT6010 Business Programming 2
- HIT6016 Database 1
- HIT6049 Systems Analysis and Design
- HIT7010 Component Based Development
- HIT7017 Database 2
- HIT7085 E-Commerce Systems Infrastructure

**Internet Software Development**

Select four of the following:

- HIT5031 Introduction to Software Engineering
- HIT5051 Software Development 1 (Java)
- HIT5052 Software Development 2 (Java)
- HIT5091 Web Development
- HIT6016 Database 1
- HIT6020 Data Communications
Swinburne offers four Graduate Diplomas in Information Technology: the one described here and Information Systems Development, Information Systems Applications and Internet Software Development. Separate brochures provide details of other courses offered by the School. It is possible to change from Electronic Commerce Systems to Information Systems Development or Information Systems Applications, and vice versa, after the first four subjects (which are common to both programs) have successfully been completed. The Graduate Diploma in Electronic Commerce Systems consists of six core subjects and two elective subjects. Through a choice of elective subjects, students may focus upon either the Information Technology or the Information Systems aspects of Electronic Commerce Systems.

### Course subjects

#### Core Subjects
- HIT5012 Information Systems and Programming
- HIT5091 Web Development
- HIT6016 Database 1
- HIT7084 Electronic Commerce: A Business Perspective
- HIT7085 Electronic Commerce Systems Infrastructure
- HIT7086 Electronic Commerce Project

Plus either:

#### Information Technology Option
- HIT6010 Business Programming 2
- HIT6092 Advanced Web Technologies, OR

#### Information Systems Option
- HIT6049 Systems Analysis and Design
- HIT7036 Information Technology Strategies

### Entry requirements

Entry to the Graduate Diploma is generally available to those who have a degree (or equivalent) in a non-IT discipline. No prior knowledge of Information Technology is assumed, but students without prior knowledge may be required to undertake additional introductory studies in the month prior to the commencement of the course.

Admission may also be granted to students with a degree in an IT discipline, if that degree was obtained several years ago and/or that degree has little overlap with the curriculum of the Graduate Diploma in Electronic Commerce Systems. Typically such students may be able to claim exemptions from some subjects in the Graduate Diploma. Of the eight subjects in the program, students may be granted up to two exemptions on the basis of previous studies or prior knowledge. If more than two exemptions are warranted, then such students should enrol instead in the Graduate Certificate in Electronic Commerce Systems, which provides an excellent adjunct to prior IT/IS knowledge and skills.

### Application procedure

Application forms are available from the School of Information Technology. Applications must be accompanied by a certified copy of original transcripts of official results.

### Further information

Contact the School of Information Technology
Telephone: +61 3 9214 5505
Email: itinfo@swin.edu.au
Website: www.it.swin.edu.au/

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**I083 Graduate Diploma of Information Technology (Electronic Commerce Systems)**

The Graduate Diploma in Electronic Commerce Systems will attract those who have skills in management, marketing, social policy and public administration who wish to acquire specialist expertise in Electronic Commerce Systems. The program provides study of the practices and uses of Information Technologies and Information Systems principles in the design, development and deployment of Electronic Commerce systems, leading to a wide range of employment opportunities in both the private and public sectors.

The program is also suitable to those who have some existing knowledge and skills in Information Systems design, development and deployment who wish to acquire specialisation in their application to Electronic Commerce Systems, especially Web-based systems. These students may be able to gain exemptions from some subjects in the program.

### Campus

Hawthorn

### Career opportunities

The program naturally extends into Swinburne’s Master of Information Technology degree, where there is an opportunity to specialise in advanced information systems modelling and development, as well as areas such as software engineering, human-computer interaction and distributed systems. Several subjects in the MIT degree have particular relevance to the development of advanced Electronic Commerce Systems. Students completing the Graduate Diploma with a grade average of credit may automatically proceed to the Masters.

### Professional recognition

Application has been made for the recognition of the course at Professional Level (the highest level) with the Australian Computer Society.

### Course duration

One year full-time or two years part-time, commencing in March or July.

### Structure

The Graduate Diploma comprises of 100 Credit Points (CP), equivalent to 1 year of full time study, and involves completing eight subjects. The program is available in both full-time and part-time modes. Entry to both courses is possible in both Semester 1 (March) and Semester 2 (July).
Aims & Objectives
The Information Systems Applications course aims to provide specific skills in areas such as spreadsheets, databases and programming.

Career opportunities
Graduates are viewed by employers as having the knowledge and skills necessary for entry-level positions in the IT industry.

Professional recognition
This course is accredited at professional level towards membership with the Australian Computer Society.

Course duration
One year full-time or two years part-time.

Structure
The Graduate Diploma consists of 100 Credit Points (CP), equivalent to one year of full-time study, and involves completing eight subjects. The program is available in both full-time and part-time modes. Entry to both courses is possible in both Semester 1 (March) and Semester 2 (July).

Swinburne offers three Graduate Diploma courses in Information Technology: Information Systems Applications (described here), and two others, Information Systems Development and Internet Software Development. A change of course may be possible after commencement of studies, but this may result in the student taking more than eight subjects, and longer than minimum time to complete the program.

Course subjects
- HIT5012 Information Systems and Programming
- HIT6006 Business Computing
- HIT8016 Database 1
- HIT8049 Systems Analysis and Design
- HIT7007 Business Computing Applications
- HIT7036 Information Technology Strategies
- HIT7084 E-Commerce: A Business Perspective
- HIT7085 E-Commerce Systems Infrastructure

Entry requirements
A degree in a non-IT discipline from a recognised tertiary institution or approved equivalent. As no prior knowledge of IT is assumed, applicants with a degree in IT will be considered only if that degree was obtained several years ago, and/or that degree has little overlap with the curriculum of the chosen stream.

For those without a degree who have substantial relevant business experience, Swinburne offers the Graduate Certificate in Information Technology - a program consisting of the first four subjects in the Graduate Diploma. Subjects should be selected in consultation with the Program Manager. Students who successfully complete the Graduate Certificate may apply for admission to the Graduate Diploma.

Credit Transfer
Of the eight subjects in the program, students may be granted exemptions from one or two, on the basis of previous studies or prior knowledge.

Application procedure
Application forms are available from the School of Information Technology. Applications must be accompanied by a certified copy of original transcripts of official results.

Further information
Contact the School of Information Technology
Telephone: +61 3 9214 5505
Email: info@swin.edu.au
Website: www.it.swin.edu.au/

IO82 Graduate Diploma of Information Technology (Information Systems Development)

The Information Systems Development course aims to provide the skills and knowledge to allow graduates to begin or progress in careers such as software development or systems analysis. This course is more technically oriented than the Information Systems Applications course and is intended to provide a broad foundation of knowledge and skills in Information Systems development. Students will study the Visual Basic programming language, and in the database area, students will gain valuable experience with the Oracle Database Management System.

The Information Systems Development program naturally extends into Swinburne's Master of Information Technology degree, where there is an opportunity to specialise in advanced information systems modelling and development, as well as in areas such as software engineering, human-computer interaction and distributed systems.

Students completing the Graduate Diploma with a grade average of credit may automatically proceed to the Masters.

Campus
Hawthorn

Career opportunities
Graduates are viewed by employers as having the knowledge and skills necessary for entry-level positions in the IT industry.

Professional recognition
This course has been accredited at professional level towards membership with the Australian Computer Society.

Course duration
One year full-time or two years part-time.

Structure
The Graduate Diploma consists of 100 Credit Points (CP), equivalent to one year of full-time study, and involves completing eight subjects. The program is available in both full-time and part-time modes. Entry to the course is possible in both Semester 1 (late February) and Semester 2 (mid July).

Students choose to study one of three alternative Graduate Diploma in Information Technology courses at enrolment. Information Systems Development is described here. Separate entries describe Information Systems Applications and Internet Software Development. A change of course may be possible after commencement of studies, but this may result in the student taking more than eight subjects, and longer than the minimum time to complete the program.

Course subjects
- HIT5012 Information Systems and Programming
- HIT6066 Business Computing
- HIT8016 Database 1
- HIT8049 Systems Analysis and Design
- HIT7007 Business Computing Applications
- HIT7036 Information Technology Strategies
- HIT7084 E-Commerce: A Business Perspective
- HIT7085 E-Commerce Systems Infrastructure

Entry requirements
A degree in a non-IT discipline from a recognised tertiary institution or approved equivalent. As no prior knowledge of IT is assumed, applicants with a degree in IT will be considered only if that degree was obtained several years ago, and/or that degree has little overlap with the curriculum of the chosen stream.

For those without a degree who have substantial relevant business experience, Swinburne offers the Graduate Certificate in Information Technology - a program consisting of the first four subjects in the Graduate Diploma. Students should be selected in consultation with the Program Manager. Students who successfully complete the Graduate Certificate may apply for admission to the Graduate Diploma.
Application procedure
Application forms are available from the School of Information Technology. Applications must be accompanied by a certified copy of original transcripts of official results.

Further information
Contact the School of Information Technology
Telephone: +61 3 9214 5505
Email: itinfo@swin.edu.au
Website: www.it.swin.edu.au/

1084 Graduate Diploma of Information Technology (Internet Software Development)

The Graduate Diploma in Information Technology (Internet Software Development) provides a practical education in software development emphasising the object-oriented approach and the development of web-based systems. The program is aimed at professionals who will use the knowledge to complement their previous qualifications and at people who are seeking a change in career direction. It is relevant to IT professionals who may have qualified several years ago, who are now seeking to move into more contemporary areas of software development.

The program naturally extends into Swinburne’s Master of Information Technology degree, where there is an opportunity to specialise in software engineering, as well as in areas such as computer networks, human-computer interaction, distributed systems and information systems modelling and development.

Students completing the Graduate Diploma with a grade average of Credit may automatically proceed to the Masters.

Campus
Hawthorn

Career opportunities
Graduates of the program will be equipped with the knowledge and skills to make them valuable members or leaders of teams developing software.

Professional recognition
This course is accredited at professional level towards membership with the Australian Computer Society.

Course duration
One year full-time or two years part-time, commencing in March or July.

Structure
The Graduate Diploma consists of 100 Credit Points (CP), equivalent to one year of full-time study, and involves completing eight subjects. Entry is possible in both Semester 1 (March) and Semester 2 (July).

Swinburne offers three Graduate Diploma courses in Information Technology: Internet Software Development (described here) and Information Systems Applications or Information Systems Development. A change of course may be possible after commencement of studies, but this may result in the student taking more than eight subjects, and longer than the minimum time to complete the program.

Course subjects
Full-time Program

Semester 1

<table>
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<tr>
<th>Subject Code</th>
<th>Subject Name</th>
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<tbody>
<tr>
<td>HIT5051</td>
<td>Software Development 1 (Java)</td>
</tr>
<tr>
<td>HIT5091</td>
<td>Web Development</td>
</tr>
<tr>
<td>HITB016</td>
<td>Database I</td>
</tr>
<tr>
<td>HITB024</td>
<td>Introduction to Human-Computer Interaction</td>
</tr>
</tbody>
</table>

Semester 2

<table>
<thead>
<tr>
<th>Subject Code</th>
<th>Subject Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIT5052</td>
<td>Software Development 2 (Java)</td>
</tr>
<tr>
<td>HIT5031</td>
<td>Introduction to Software Engineering</td>
</tr>
<tr>
<td>HITB092</td>
<td>Advanced Web Technologies</td>
</tr>
<tr>
<td>HITB020</td>
<td>Data Communications</td>
</tr>
</tbody>
</table>

Entry requirements
A degree in a non-IT discipline from a recognised tertiary institution or approved equivalent. No prior knowledge of IT is assumed, but students without prior knowledge may be required to undertake additional introductory studies in the month prior to commencement of the course. Admission may be granted to students with a degree in IT, if that degree was obtained several years ago, and/or that degree has little overlap with the curriculum of the Graduate Diploma.

For those without a degree who have substantial relevant business experience, Swinburne offers the Graduate Certificate in Information Technology - a program consisting of the first four subjects in the Graduate Diploma. Students who successfully complete the Graduate Certificate may apply for admission to the Graduate Diploma.

Application procedure
Application forms are available from the School of Information Technology. Applications must be accompanied by a certified copy of original transcripts of official results.

Further information
Contact the School of Information Technology
Telephone: +61 3 9214 5505
Email: itinfo@swin.edu.au
Website: www.it.swin.edu.au/

1091 Master of Information Technology

The Master of Information Technology (MIT) degree provides the opportunity to study some of today’s most exciting IT developments in depth. The MIT is part of a nested suite of programs, which includes a Graduate Certificate and a Graduate Diploma, with a number of entry points depending on previous academic studies and work experience.

The MIT is designed for those with a bachelor's degree or a graduate diploma in an information technology discipline (computer science, information systems, computer systems engineering). The program specifically aims to suit the needs of recent graduates who wish to pursue advanced studies and also experienced IT professionals, whose previous qualification was obtained some time ago, and who are seeking to extend or update their knowledge.

Graduates of the program will be equipped with the knowledge and skills to make them valuable members or leaders of teams developing software.

Professional recognition
This course is accredited at professional level towards membership with the Australian Computer Society.

Course duration
One year full-time or two years part-time. For students commencing at the Graduate Diploma stage, the course is two years full-time or four years part-time.

Structure
The Master of Information Technology degree consists of 100 Credit Points (CP), equivalent to one year of full-time study. The program is available in both full-time and part-time (5.30pm to 9.30pm) modes. Entry is possible in both Semester 1 (Feb/March) and Semester 2 (July), but the full range of options is currently available only to students who enter in Semester 1. Since this course is continually under review in order to keep it in touch with state-of-the-art technology, changes in course structure and subjects occur from time to time. The most common program consists of eight coursework subjects. Development and modelling projects and research subjects are also offered.

Postgraduate subjects are categorised as Level 1, 2 or 3. Subjects are generally worth 12.5 credit points. For the MIT, students must complete at least 75 credit points of Level 3 subjects, and up to 25 credit points of Level 2 subjects (in areas not covered by their previous IT studies) for a total of 100 credit points. Level 2 subjects may be included only with the explicit permission of the Program Manager. Some Level 2 subjects are only offered during the day.

Note: some Level 2 subjects may be necessary in order to fulfil the prerequisite knowledge of Level 3 subjects.
### Course subjects

**Level 3**

**Semester 1 (February – June)**
- HIT7018 Database 3
- HIT7027 Component Modelling and Design
- HIT7023 Human-Computer Interaction
- HIT7030 Information Systems Modelling Project (25 CP)
- HIT7040 Multimedia Systems
- HIT7059 The Software Process
- HIT7065 Windows Programming
- HIT7063 UNIX Systems Programming
- HIT7068 E-Commerce Management
- HIT8157 Large Scale System Design
- HIT8039 Local Area Networks
- HIT8142 Object-Oriented Modelling
- HIT8180 Systems Project Management
- HIT8050 Evolutionary and Neural Computing
- HIT8127 Component Modelling and Design

**Semester 2 (July – November)**
- HIT7017 Database 2
- HIT7037 Programming in Java
- HIT7092 Advanced Web Technologies
- HIT8153 Software Development 3A
- HIT8059 The Software Process
- HIT8065 Windows Programming
- HIT8063 UNIX Systems Programming
- HIT8068 E-Commerce Management
- HIT8018 Database 3
- HIT8021 Distributed Object Technology
- HIT8028 Interactive Systems Design
- HIT8033 Information Systems Development Project (25 CP)
- HIT8041 Advanced Web Development
- HIT8045 Personal Software Process
- HIT8064 Wide Area Networks
- HIT8065 Windows Programming
- HIT8143 Design Patterns for Programmers
- HIT8119 Enterprise Java
- HIT8089 Engineering for Human-Computer Interaction
- HIT8126 Advanced Data Modelling
- HIT8057 Software Testing and Reliability

#### Research Subjects
- HIT8067 Minor Thesis (50 CP)
- HIT8068 Research Seminar (12.5 CP)
- HIT8069 Research Paper (12.5 CP)
- HIT8070 Research Report (25 CP)

### Level 2 Subjects

**Semester 1 (March – June)**
- HIT7017 Database 2
- HIT7037 Programming in Java
- HIT7092 Advanced Web Technologies
- HIT8153 Software Development 3A
- HIT7072 C++ for Programmers

**Semester 2 (July – November)**
- HIT7017 Database 2
- HIT7037 Programming in Java
- HIT7010 Component-Based Development
- HIT7068 Information Technology Strategies
- HIT7068 Knowledge Based Systems
- HIT6020 Data Communications

### Entry requirements

A degree or graduate diploma in an information technology discipline from a recognised tertiary institution or approved equivalent.

Students with a Credit Grade Point Average degree in another discipline generally undertake the Graduate Diploma in Information Technology prior to commencing the Masters program. Students may be eligible for up to 25 credit points of exemptions in the Graduate Diploma, based on prior study of IT.

Students with a degree containing minor studies in IT (consisting of the equivalent of at least 3 undergraduate subjects) may be admitted to the MIT but generally they will have to first enrol in a preliminary program consisting of an appropriate number of Graduate Diploma subjects, designed to bring their IT knowledge up to the level of someone with a Graduate Diploma.

Students undertaking all or some of the Graduate Diploma in Information Technology will normally require a Credit Grade Point Average before proceeding to the Master of Information Technology.

### Application procedure

Application forms are available from the School of Information Technology. Applications must be accompanied by a certified copy of original transcripts of official results.

### Further information

Contact the School of Information Technology.
Telephone: +61 3 9214 5505
Email: itinfo@swin.edu.au
Website: www.it.swin.edu.au/

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**DESIGN**

### DESIGN STUDIES

**DMDS30 Graduate Diploma of Design (Design Studies)**

The Master of Design (Design Studies) is a nested program incorporating the Graduate Diploma of Design (Design Studies). The program reinforces the value of an integrated approach to design practice and theory as it exists in undergraduate programs of the National School of Design, while equipping a new group of candidates with the academic skills, intellectual perspectives and design interests that lead to further design research. Target candidates are secondary teachers in the fields of Visual Communication and Design, technology, and women designers returning to the work force. Designers who qualified at diploma level also constitute a prospective source of students. The program may also be of interest to international students. In the area of exhibition and interior design, curators and museologists who have to engage in or take responsibility for exhibition design are also potential students.

### Aims & Objectives

The program aims to provide relevant extension work in the areas of design practice, technology, history and theory to individuals who work in design related fields or have existing design qualifications. It has been developed to enable them to upgrade their professional skills and design awareness, including digital design, while developing a strong sense of design’s cultural context and social role. Masters candidates would be expected to demonstrate an independent approach to developing knowledge or understanding in design through their design research/thesis project.

### Campus

Prahran

### Professional recognition

This course has been developed in consultation with the Graphic Communication Teachers Association and the Technology Education Teachers Association of Victoria (TETAV).
Course duration
Diploma: two years part-time.
Masters: two and a half years part-time.

Structure
The Master of Design (Design Studies) course will operate under a student workload model based on 50 credit points for a full-time academic semester. To qualify for the award the student must complete, or have been granted exemption for, the subjects listed below.

The program has the skills and knowledge component of the course delivered by intensive teaching and the presentation of individual projects. The research/thesis component will be an independent program of investigation developed in consultation with the candidate’s supervisors.

Course subjects
Semester 1 (Graduate Diploma)
Design Studio
HDDS501 Graphic Design
HDDS502 Multimedia Design
HDDS503 Industrial Design
HDDS504 Interior/Exhibition Design
Design Practice – Digital units
HDDS506 Graphic Design
HDDS502 Multimedia Design
HDDS503 Industrial Design
HDDS504 Interior/Exhibition Design
HDCI03 Modernism and Mass Culture
HDCI04 Modern/Postmodern

Semester 2 (Graduate Diploma)
Design Studio
HDDS601 Graphic Design
HDDS602 Multimedia Design
HDDS603 Industrial Design
HDDS604 Interior/Exhibition Design
HDCI02 Design and the Production of Culture
HDRES800 Design Research (25 credit points)

Semester 3 (Master of Design)
HDRES700 Design Research/Thesis (50 credit points)

Entry requirements
A degree or diploma in art or design from a recognised tertiary institution or substantial experience in the design industry (normally five years).

Application procedure
Contact the School Administrator, Liz Standley on +61 3 9214 6868.

Further information
Contact the School Administrator, Liz Standley on +61 3 9214 6868

MULTIMEDIA DESIGN

DMMD30 Graduate Certificate of Design (Multimedia Design)
DMMD31 Graduate Diploma of Design (Multimedia Design)
DMMD32 Master of Design (Multimedia Design)

The National School of Design, with its international and nationally known programs in design education combined with media studies from the School of Social and Behavioural Sciences, offers this specialised postgraduate program in multimedia design. The course aims to produce postgraduates with a specialist understanding of communication design, media studies and programming as applied to the World Wide Web and computer interactive mediums. They will acquire specialist skills for communication design in typography, animation, 3D modelling, audio and video as applied to electronic mediums.

Campus
Prahran

Career opportunities
Graduates will possess broad based knowledge and specialist skills that will enable them to work at many levels in design consultancies, information technology companies, media and entertainment studios, advertising agencies and government instrumentalities.

Professional recognition
Graduates are eligible for membership of the Australian Graphic Design Association (AGDA), membership of multimedia Industry Network (mmIN) and associate membership of the Design Institute of Australia (DIA).

Course duration
The Master of Design (Multimedia Design) can be studied full-time over two years or four years part-time.

Structure
The Master of Design (Multimedia Design) course will operate under a student workload model based on 100 credit points for a full-time academic year. To qualify for the award the student must complete, or have been granted exemption for, the subjects listed below.

The program has skills acquisition as a component of the course delivered by intensive teaching and an individual minor project. The major component of the program is based on a collaborative group project undertaken by small teams of students. This mirrors the methodology of professional practice. There is a written component at each level of the course consisting of a dissertation of approximately 2,500 to 3,500 words.

Students may elect to withdraw from the program (depending on the number of units completed) with the Graduate Certificate or Graduate Diploma in Multimedia Design.

In specific instances students may wish to take a subject offered in another school of the University in place of a subject offered in this course. In order for this to occur a student must liaise with the coordinator of the course in question and seek approval of the Head of Multimedia Design.

Course subjects
Semester 1 (Graduate Certificate)
HMDES01 Multimedia Design Technology 1
HMDEP01 Individual Multimedia Design Project 1
HMMPS01 Group Multimedia Design Project 1 (25 credit points)

Semester 2 (Graduate Diploma)
HMDES02 Multimedia Design Technology 2
HMDEP02 Individual Multimedia Design Project 2
HMMPS02 Group Multimedia Design Project 2 (25 credit points)

Semester 3 (Master of Design)
HMDES03 Multimedia Design Technology 3
HMDEP03 Individual Multimedia Design Project 3
HMMPS03 Group Multimedia Design Project 3 (25 credit points)

Semester 4
HMDES04 Multimedia Design Technology 4
HMDEP04 Individual Multimedia Design Project 4
HMMPS04 Group Multimedia Design Project 4 (25 credit points)

Entry requirements
Satisfactory completion of an appropriate degree or honours degree and/or relevant industrial experience to meet entry paths as described below. Or have such other qualifications or experience, which in the opinion of the Selection Committee, are of a satisfactory standard and are suitable preparation for entry to this program at an appropriate level.
Application procedure
Direct application to the Administration Manager, National School of Design.

Further information
Contact the National School of Design
Telephone: +61 3 9214 6755
Email: NSDenquiry@swin.edu.au
Website: www.swin.edu.au/design

HIGHER DEGREES BY RESEARCH

DD90  Doctor of Philosophy (Design)
Current research projects include:
- The cognitive structure of colour space.
- The design of an instrument for use in Anterior Cruciate Ligament surgery.
- A cognitive simulation model of colour design strategies.
- Lithographic transfer as a catalyst for invention.
- Public perceptions of designers and the design professions.
- An internet-based investigation of public perceptions of the design professions.
- Indirect transfer: catalyst to chemical printing.

Campus
Prahran

Course duration
Generally, three years full-time or six years part-time.

Entry requirements
Admission to the Doctor of Philosophy is not restricted to those with a design background. Applicants from any academic area are welcome.
In general, applicants for the Doctor of Philosophy should have:
(a) a Masters degree, OR
(b) an Honours degree with First or Second Class Honours, OR
(c) other qualifications and professional experience deemed equivalent.

Further information
Informal enquiries should be directed to:
Prof. A. Whitfield
National School of Design, Swinburne University
Building A, Cnr High and Thomas Streets, Prahran VIC 3181

MD90  Master of Design (by research)
The Master of Design by research involves the investigation of a design-related topic using appropriate research methods. It can be pursued on a full-time or part-time basis.
Supervision is available in the areas of:
- Design History and Critical Theory.
- Design Psychology (particularly in Aesthetics and Colour Cognition).
Emerging areas of interest within the School are in:
- Public Perceptions of Design.
- 20th Century Australian Design.
- User Friendly Information Design.
The scope of research is best indicated by examples of projects currently being supervised within the School:
- Evaluating Corporate Identity Programs.

Campus
Prahran

Course duration
Three years full-time.

Entry requirements
Admission to the Master of Design by research involves the investigation of a design-related topic using appropriate research methods. For examination the candidate may produce either:
(a) a thesis only, OR
(b) a thesis and a product or artefact that embodies the result of their research.

Further information
Contact the National School of Design
Telephone: +61 3 9214 6755
Email: NSDenquiry@swin.edu.au
Website: www.swin.edu.au/design

DDP90  Professional Doctorate of Design
The Professional Doctorate in Design is an innovative program of advanced study designed to meet the professional needs of experienced designers in the world of industry and education. Its focus is on the new emergent electronic media and their application to the fields of design. These have wide application across the entire range of design professions, and are equally relevant to professionals working in, for example, graphic and multimedia design, product and industrial design, and interior and exhibition design. The course is therefore applicable to all design disciplines. Its project-based structure allows the designer to pursue a research goal appropriate to his/her discipline, while using digital technology to better achieve that goal. As a design doctorate, the emphasis is firmly on design, with the new digital technology acting as both a facilitator and a channel for professional development.

Campus
Prahran

Course duration
Three years full-time.

Entry requirements
Applicants for the Professional Doctorate should have:
(a) a Bachelors Degree with First or Second Class Honours;
(b) other qualifications and professional experience deemed equivalent.

Further information
Direct application to the Administration Manager, National School of Design.

Contact the National School of Design
Telephone: +61 3 9214 6755
Email: NSDenquiry@swin.edu.au
Website: www.swin.edu.au/design
Course subjects

**Semesters 1, 2 & 3**
- PDD701 Design Research Project 1
- PDD702 Design Research Project 2

**Semesters 4, 5 & 6**
- PDD703 Major Design Research Project

**Entry requirements**
A masters degree, from a recognised tertiary institution, plus a minimum of five years professional experience. Applicants with other qualifications and relevant experience may also be considered.

**Application procedure**
Direct Application to the School Administration Manager, National School of Design.

**Further information**
Contact the National School of Design
Telephone: +61 3 9214 6755
Email: NSDenqury@swin.edu.au
Website: www.swin.edu.au/design

### ENGINEERING and TECHNOLOGY

### AIR TRANSPORTATION MANAGEMENT

#### MF94 Graduate Certificate of Technology (Air Transportation Management)

#### MF95 Graduate Diploma of Technology (Air Transportation Management)

#### MF96 Master of Technology (Air Transportation Management)

This program is designed primarily to meet the needs of personnel currently involved in the aviation industry who wish to upgrade their skills at tertiary level in the field of management in air transportation. In addition, the program is designed to have considerable application for personnel in related technologically based service and business industries.

The program will provide students with the skills necessary in the field of air transportation management within the aviation industry. It will provide insight into the multiple facets of management and its application in air transportation. The program has been developed in partnership with the aviation industry. One of the unique aspects is that authors and lecturers from a number of fields contribute to this teaching. This provides a range of diverse views, ideas and practical examples and broadens the students’ understanding of air transportation management.

**Aims & Objectives**
The aim of the program is to develop within an operational environment:
- An advanced understanding of the principles and complexities of the air transportation industry.
- The skills necessary to implement air transportation management within a company environment.
- Proactive skills to achieve and sustain competitive advantage in a rapidly changing global industry.

**Campus**
Distance Education/Learning

**Course duration**
Certificate: Two semesters part-time or one semester full-time.
Diploma: Four semesters part-time or two semesters full-time.
Masters: Six semesters part-time or three semesters full-time.

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<thead>
<tr>
<th>Structure</th>
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<tr>
<td>Although the program is designed to be completed at the normal rate of two subjects per semester, it is possible to vary this to suit students’ individual needs. Part-time progress though the program is defined as doubling the time required by undertaking only one subject per semester. Accelerated progress is also possible for those students who can devote full-time to the program by undertaking four subjects per semester. The courses are available by Distance Education only and will be delivered by technologically advanced means.</td>
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| After completion of four subjects it is possible to exit the program with a Graduate Certificate. It will be possible to continue after completion of the Graduate Diploma into a Master of Technology in Air Transportation Management or Master of Business Administration or Master of Management with ‘advanced standing’. Entry into each of the Masters degrees will be available to those students who achieve a credit average or better in the Graduate Diploma. Whilst there are sixteen available subjects, the completion of Air Transportation Management - General, plus seven other subjects will qualify for the award of a Graduate Diploma. Research Design & Methodology must have been undertaken at the Graduate Diploma level to be able to progress to the Master of Technology. |

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<th>Course subjects</th>
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<tr>
<td><strong>Graduate Certificate</strong></td>
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<tr>
<td>HMF611 Air Transportation (mandatory)</td>
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<td>Plus 3 subjects from the following list:</td>
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<tr>
<td>HMF612 Airport Management &amp; Planning</td>
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<td>HMF613 Airlines Operations Management</td>
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<tr>
<td>HMF615 Aircraft Selection, Acquisition &amp; Contracts</td>
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<tr>
<td>HMF616 Stress &amp; Fatigue Management in Aviation</td>
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<tr>
<td>HMF617 Emergency Planning &amp; Management, Part 1</td>
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<tr>
<td>HMF618 Emergency Planning &amp; Management, Part 2</td>
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<tr>
<td>HMF621 Airline Alliances &amp; Contemporary Issues</td>
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| **Graduate Diploma** |
| HMF611 Air Transportation (mandatory) |
| Plus seven of the following subjects: |
| HMF612 Airport Development and Management |
| HMF613 Airlines Operations Management |
| HMF614 Aircraft Performance and Certification |
| HMF615 Aircraft Selection - Acquisition and Contracts |
| HMF616 Stress and Fatigue Management in Aviation |
| HMF617 Emergency Planning and Management - Part 1 |
| HMF618 Emergency Planning and Management - Part 2 |
| HMF619 Aviation Security, Risk Management, Insurance |
| HMF620 Air Transportation Financial Management |
| HMF621 Airline Alliances and Related Topics |
| HMF622 Aviation Law and Air Transport Issues |
| HMF623 Financial Management |
| HMF600 Introductory Human Factors |
| HMF603 Organisational Change in Aviation |
| HMF605 Research Design & Methodology* |

* This subject must be undertaken to be able to progress to the Masters.

| Masters |
| Students must complete HMF611 and HMF605 and select six other subjects from Stages 1 & 2 before progressing to Stage 3. |

| **Stage 1** |
| HMF611 Air Transportation (mandatory) |
| HMF612 Airport Development and Management |
| HMF613 Airlines Operations Management |
| HMF614 Aircraft Performance and Certification |

| **Stage 2** |
| HMF615 Aircraft Selection - Acquisition and Contracts |
| HMF616 Stress and Fatigue Management in Aviation |
HMF617 Emergency Planning and Management - Part 1
HMF618 Emergency Planning and Management - Part 2
HMF619 Aviation Security, Risk Management, Insurance
HMF620 Air Transportation Financial Management
HMF621 Airline Alliances and Related Topics
HMF622 Aviation Law and Air Transport Issues
HMF623 Financial Management
HMF660 Introductory Human Factors
HMF663 Organisational Change in Aviation
HMF665 Research Design & Methodology (mandatory)

Stage 3

Advanced Research Project

Entry requirements
Applicants for this program should fit one or more of the following categories:

- University graduates in any of the following - Aviation, Business, Economics, Engineering, Law, Management, Marketing, Psychology, Science or Social Science.
- People working in the aviation industry in the following roles (providing they have at least two years’ operational experience) - Air Traffic Controllers, Licensed Aircraft Maintenance Engineers (LAMEs), Company managers and supervisors, Military personnel and Pilots, Pilots holding a full ATP licence.
- People who do not fit the above categories but who meet all of the following criteria, may be eligible - those currently working in the aviation industry, with a demonstrable academic capacity to deal with the study required, would benefit from participation in the program.

People in the last category will be enrolled in the Graduate Certificate only in the first instance, but may continue onto the Graduate Diploma if their progress is satisfactory. This category also allows those with overseas qualifications with no exact Australian equivalents, to be admitted to the program.

Application procedure
Application forms are available from the Distance Education Office (Aviation Programs) by telephoning +613 9214 5066. Applications must be accompanied by a certified copy of original transcripts of official results.

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au
Website: www.swin.edu.au/aviation/

AVIATION

M094 Graduate Certificate of Technology
(Aviation Human Factors)

M095 Graduate Diploma of Technology
(Aviation Human Factors)

M096 Master of Technology
(Aviation Human Factors)

This course is designed primarily to meet the needs of personnel currently involved in the aviation industry who wish to upgrade their skills at tertiary level in the specialist area of human factors. In addition, the course is designed to have considerable application for personnel in other technologically based industries including rail, shipping, heavy industry, the chemical industry and energy production.

The program provides students with the skills necessary to design and implement human factors programs within the aviation industry. It also provides insight into management of the air transportation industry and a deep understanding of the multiple facets of human factors training and its application to the aviation industry.

One of the unique aspects of the Graduate Certificate is that lecturers from a number of universities contribute to this teaching. This provides a range of diverse views and ideas and broaden the students’ understanding of the human factors domain.

Aims & Objectives
The aims of the program are to develop within an operational environment:

- An advanced understanding of the principles of human factors.
- The skills necessary to implement human factors training programs.
- The skills necessary to conceptualise and undertake applied human factors research.

Campus
Distance Education/Learning

Course duration
Certificate: Two semesters part-time or one semester full-time.
Diploma: Four semesters part-time or two semesters full-time.
Masters: Six semesters part-time or three semesters full-time.

Structure
This program will be available by Distance Education only and will be delivered by technologically advanced means. From the year 2000 onwards, each subject should be accessible via the Internet, or by other multi-media modes to suit student needs.

Whatever primary means is used to participate in the program, there will be a requirement for attendance at a mandatory two day residential seminar/workshop for each subject. For those undertaking the standard program, these will be combined each semester in a four day seminar covering both subjects. The residential seminars/workshops will be presented at the Hawthorn campus of Swinburne University of Technology. Students enrolled in the international program are not required to attend the seminars.

Although the programs are designed to be completed at the normal rate of two subjects per semester, it is possible to vary this to suit students’ individual needs. Part-time progress through the program is defined as doubling the time required to complete the program by undertaking only one subject per semester. Accelerated progress is also possible for those students who can devote full-time to the program thereby completing the Graduate Certificate in one semester, the Graduate Diploma in two semesters, and the Masters degree in three semesters or, by utilising the summer break, it is possible to complete the Masters in about sixteen months.

Students who successfully complete a stage, may exit with the relevant qualification or progress to the next stage.

Course subjects
Stage 1

Semester 1 (Graduate Certificate)
HMF600 Introductory Human Factors
HMF601 Air Transportation Management and Facilitation

Semester 2
HMF602 Crew Resource Management and Leadership
HMF603 Organisational Change in Aviation

Stage 2 (Graduate Diploma)

Semester 1
HMF604 Advanced Human Factors
HMF605 Research Design and Methodology

Semester 2
HMF606 Human Factors in Specialist Operations
HMF607 Research Project

Stage 3 (Masters)

HMF608 Advanced Research Project

Entry requirements
Applicants for this program should fit one or more of the following categories:

- University graduates in any of the following - Aviation, Business, Economics, Engineering, Law, Management, Marketing, Psychology, Science or Social Science.
• People working in the aviation industry in the following roles (providing they have at least two years’ operational experience) - Air Traffic Controllers, Licensed Aircraft Maintenance Engineers (LAMEs), Company managers and supervisors, Military personnel and Pilots, Pilots holding a full ATPL licence.

• People who do not fit the above categories but who meet all of the following criteria, may be eligible - currently working in the aviation industry, demonstrable academic capacity to deal with the study required, would benefit from participation in the program.

People in the last category will be enrolled in the Graduate Certificate only in the first instance, but may continue onto the Graduate Diploma if their progress is satisfactory. This category also allows those with overseas qualifications with no exact Australian equivalents, to be admitted to the program.

Application procedure
Application forms are available from the Distance Education Office (Aviation Programs) by telephoning +61 3 9214 8372. Applications must be accompanied by a certified copy of original transcripts of official results.

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au
Website: www.swin.edu.au/aviation/

CAD/CAM/CIM

M084 Graduate Certificate of Engineering (CAD/CAM)
M085 Graduate Diploma of Engineering (Computer Integrated Manufacturing)
M086 Master of Engineering (Computer Integrated Manufacture)

Computer aided design is defined as a system that uses a computer to assist in the creation or modification of a design. Computer aided manufacturing is defined as the effective utilisation of computer technology in the management, control and operation of the manufacturing facility through direct or indirect interface with the physical and human resources of the company.

Computer integrated manufacturing is an important and effective means of achieving productivity improvements which must be seriously considered by manufacturing companies wishing to become and remain competitive, and which should be encouraged in the national interest so that application of appropriate technology can improve our ability to compete on international markets and against cheaper, high quality imports in the domestic market.

It is intended that graduates will be professional engineers with a sound basic qualification, comprehensive understanding of the practical applications of computer integrated manufacturing systems, and demonstrated ability to carry out detailed investigation and research at high academic level into specific aspects of computer integrated manufacturing.

Aims & Objectives
The Computer Integrated Manufacture program aims to prepare graduates from engineering and the physical sciences for future roles in the development and application of computer integrated manufacturing (CIM), which combines the associated technologies of computer aided manufacturing (CAM) and computer aided design (CAD).

Campus
Hawthorn

Career opportunities
Career opportunities may include employment within manufacturing companies, as project engineers or advanced program managers, intending to adopt computer integrated manufacturing. It is also envisaged that some graduates may seek employment related the marketing of hardware/software systems or as consultants.

Course duration
Graduate Certificate: One semester full-time or equivalent part-time.
Graduate Diploma: Two semesters full-time or equivalent part-time.
Masters: Three semesters full-time or equivalent part-time.

Structure
Each subject is delivered on a modular basis, normally outside business hours, over a two week period. Assessment for each subject normally occurs three weeks after delivery.

Note: Students must achieve 100 credit points with an average of not less than 65% at Graduate Diploma level to continue through to the Masters program. Alternatively, students may be permitted to complete at Graduate Certificate or Graduate Diploma level.

Course subjects
Semester 1 (Graduate Certificate)
HMM662 Computer Aided Design
HMM683 Enterprise Management Systems
HMM684 Advanced Robotics
HMM685 Numerical Control Systems

Semester 2 (Graduate Diploma)
HMM666 Intelligent Manufacturing Systems
HMM667 Computer Control and Sensing
HMM668 Expert Systems, Simulation and Modelling
HMM669 Computer Modelling and FEA

Semester 3 (Masters)
HMM661 Research Project

Entry requirements
A four year engineering degree from a recognised tertiary institution or such qualification or experience which in the opinion of the selection committee is of a satisfactory standard and suitable preparation for entry to the program.

Application procedure
Direct application to the Industrial Research Institute Swinburne (IRIS) should be made on the relevant form available from IRIS’s administration office.

Further information
Contact the Industrial Research Institute Swinburne (IRIS) on +61 3 9214 8600

CONSTRUCTION MANAGEMENT

C065 Graduate Certificate of Engineering (Construction Management) - Performance Building Surveying

Buildings in Australia are designed to meet the requirements of the Building Code of Australia. Recently, a new building code has introduced ‘performance based’ provisions which allow departure from the traditional method of design and construction. These new provisions or regulations ensure that the objectives of the requirements are met using a variety of methods. In order to facilitate the use of this new code, building surveyors need to be educated in the use of performance based regulations.

This program of advanced study includes the development of analytical and mathematical skills to interpret performance methods, an understanding of the process of assessing performance methods and an appreciation of new techniques in fire technology and engineering.

Aims & Objectives
The course aims to develop the following:

• An understanding of fire science and technology fundamentals.

• The technical skills required in the application and use of codes of practice dealing with materials and fire.

• The ability to apply rational system design for buildings.
An understanding of the financial considerations and the risks involved in
Knowledge of modern building, construction and maintenance technology.
Skill at allocation of materials resources, and in organisation and leadership

The course aims to develop the following:

Aims & Objectives

- An awareness of cultural impacts on construction sites, particularly on offshore projects.
- An ability to plan construction, building and maintenance operations and to forecast resource needs.
- An appreciation of contractual obligations and risks and legal requirements.
- An understanding of the requirements of Quality Management.
- An understanding of the Construction and Building Industry as a service industry.
- An awareness of environmental impacts of construction projects.
- An understanding of management of property.
- An ability to communicate effectively within a project setting.

Campus
Hawthorn

Career opportunities
The course assists the professional in moving from the area of technical practice to the technical management stream.

Professional recognition
Associate membership of the Australian Institute of Building.

Course duration
Diploma: One year full-time or two years part-time.
Masters: One and a half years full-time or three years part-time.

Course subjects

Stage 1
Choose four:

Building Infrastructure Management
Construction Law
Financial Management 1
Civil Engineering Project Control

Stage 2
Choose four:

Urban Infrastructure Management
Cost Engineering
Communications
Health and Safety in Construction

Stage 3
Research Project

Entry requirements
Applicants should have:

- Completed an engineering degree or equivalent qualification, OR
- Successfully completed a four year degree in building or architecture, OR
- A diploma in a related field as a minimum qualification, OR
- Qualifications and experience which, in the opinion of the selection officer, are of a satisfactory standard and are a suitable preparation for study in the Master's program, and
- Preferably have appropriate experience
- Preferably have Honours or a postgraduate qualification.

Application procedure
Application forms are available from the School of Engineering & Science. Applications must be accompanied by a certified copy of original transcripts of official results.

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

CO82 Graduate Diploma of Engineering (Construction Management)

The construction industry has always required efficient technical and financial project administrators, and this need is even greater in today's financial climate. Projects must run efficiently on all fronts, and managers must be able to plan, execute and supervise jobs with professional skill in areas where each new technological advance creates a need for new techniques, methods and equipment.

The main aim of this course is to prepare graduates of proven academic ability for future roles in managing people, equipment, materials, technological processes and funds in the construction, building and maintenance of buildings and assets in the civil infrastructure. The achievement of this aim is facilitated by providing a structured study of advanced management and engineering techniques in the fields of construction, building and maintenance.

There are topics within the subjects of the course which will relate to industrial conditions in S.E. Asia and the Pacific. The purpose of these topics is to draw the attention of Australian students to offshore challenges and opportunities. These topics are also used to help foreign students relate the class material to their own background and to contribute their own experience to the course.

Aims & Objectives

The course aims to develop the following:

- Skill at allocation of materials resources, and in organisation and leadership of people.
- Knowledge of modern building, construction and maintenance technology.
- An understanding of the financial considerations and the risks involved in project funding.

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Students may be permitted to complete at Graduate Certificate or Graduate Diploma level.

Course subjects

Semester 1 (Graduate Certificate)

- HMM649 Fundamentals of Industrial Engineering
- HMM650 Process Improvement and Quality
- HMM683 Enterprise Management Systems
- HMM657 Computing for Industrial Engineering

Semester 2 (Graduate Diploma)

- HMM688 Expert Systems, Simulation and Modelling
- HMM656 Systems Optimisation and Reliability
- HMM655 Decision Analysis
- HMM658 Design of Physical facilities

Semester 3 (Masters)

- HMM659 Minor Thesis, OR
- HMM690 Project and 2 approved subjects*

* Approved subjects must have a common theme

Entry requirements

A degree in a professional field from a recognised tertiary institution or such qualification or experience which in the opinion of the selection committee is of a satisfactory standard and suitable preparation for entry to the program.

Application procedure

Direct application to the Industrial Research Institute Swinburne (IRIS) should be made on the relevant form available from IRIS’s administration office.

Further information

Contact the Industrial Research Institute Swinburne (IRIS) on +61 3 9214 8600

INDUSTRIAL INFORMATION TECHNOLOGY

M060  Graduate Certificate of Engineering (Industrial Information Technology)
M061  Graduate Diploma of Engineering (Industrial Information Technology)
M062  Master of Engineering (Industrial Information Technology)

The Master of Engineering (Industrial Information Technology) program provides a suite of subjects and options that includes those in the Graduate Certificate and Graduate Diploma. Participants choose further elective subjects and develop hands-on skills through a project or thesis.

Aims & Objectives

This Masters program is designed to generate high-calibre industry professionals with the capacity to undertake projects in the industrial IT environment.
The program can be undertaken by any suitably qualified student, but is particularly suited to those operating under IRIS’s unique Career Oriented Learning (COL) approach to postgraduate learning.

**Aims & Objectives**

The program aims to provide substantial flexibility in developing an individualised learning program which incorporates learning outcomes associated with the full IRIS suite of postgraduate course offerings. Hence, the real aims and objectives of a particular individualised program are best defined by the prospective student through a process of first defining his/her learning needs and then relating these to the learning objectives of IRIS courses.

**Campus**

Hawthorn

**Course duration**

Graduate Certificate: One semester full-time or equivalent part-time.
Graduate Diploma: Two semesters full-time or equivalent part-time.
Masters: Three semesters full-time or equivalent part-time.

**Structure**

Each subject is delivered on a modular basis, normally outside business hours, over a two week period. Assessment for each subject normally occurs three weeks after delivery.

Graduate Certificate: Four approved subjects selected (in consultation with the course convenor) from any of the IRIS courses listed below.
Graduate Diploma: Eight approved subjects selected (in consultation with the Course Convenor) from any of the IRIS courses listed below.
Masters: Eight approved subjects plus a Minor Thesis selected (in consultation with the course convenor) from any of the IRIS courses listed below.

Up to 25 credit points may be earned through approved industry-based learning projects (in addition to the Master project listed in other IRIS course descriptions).

**Course subjects**

- CAD/CAM
- Computer Integrated Manufacture
- Industrial Information Technology
- Metrology and Quality
- Product Design Innovation
- Microsystem Technology
- Robotics and Automation
- Industrial Engineering

**Entry requirements**

A degree in a professional field from a recognised tertiary institution.

**Application procedure**

Direct application to the Industrial Research Institute Swinburne (IRIS) should be made on the relevant form available from IRIS’s administration office.

**Further information**

Contact the Industrial Research Institute Swinburne (IRIS) on +61 3 9214 8600

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**INDUSTRY**

<table>
<thead>
<tr>
<th>IRIND1</th>
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<td>IRIND3</td>
<td>Master of Engineering (Industry)</td>
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</tbody>
</table>

The Master of Engineering (Industry) program has been specifically developed to allow students to exploit its flexibility to undertake an individualised learning program. The Industrial Research Institute Swinburne (IRIS) offers a suite of courses serving such particular specialist areas as Computer Aided Design, Computer Integrated Manufacturing, Industrial Information Technology, Robotics and Automation, Product Design Innovation, Industrial Engineering Management, and Metrology and Quality. By allowing a selection of units from this suite of courses, this program recognises that individual students can have quite different learning needs due to their different formal and informal learning backgrounds, different career aspirations and different influences by employers who, themselves, have particular strategic needs for development of their employees.

In consultation with IRIS staff, and the student’s employer if appropriate, the student may construct a learning program comprising a selection of units from the entire range of IRIS courses. In addition, scope exists to incorporate learning derived from formal units offered outside IRIS and also workplace learning activities.

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**Further information**

Contact the Industrial Research Institute Swinburne (IRIS) on +61 3 9214 8600
LOGISTICS

C066 Graduate Certificate of Technology (Logistics)
C076 Graduate Diploma of Technology (Logistics)
C086 Master of Technology (Logistics)

The suite of postgraduate programs in Logistics is designed to develop expertise in the technical and managerial aspects of the industry. The use of industrial practitioners, to bring current case studies into the class for presentation and discussion, is a particular feature of many of the subjects, thus keeping the course relevant and at the leading edge of business and industry operations.

Originally, logistics had a transportation and warehousing focus, which has gradually evolved into a ‘customer driven’ integrated management systems focus. The Council of Logistics Management defines logistics as:

‘...the process of planning, implementing and controlling the efficient flow and storage of raw materials, in-process inventory, finished goods, services and related information from point of origin to point of consumption (including inbound, outbound, internal and external movements) for the purposes of conforming to customer requirements’.

This definition has been further developed and logistics in the context of these programs further integrates logistics into all aspects of an organisations’ operations including manufacturing, production and business.

Aims & Objectives

This advanced study program aims to provide:
- The development of analytical skills to manage integrated logistics.
- An understanding of the process of managing projects and contents.
- The development of computer skills to understand the application of computer systems to enhance the operation of logistic activities.
- An appreciation of the current issues related to logistics operations within organisations.
- An appreciation of the place of human resources in the operation and the influence they have on effective outcomes.
- Acquisition of advanced skills to appreciate the complex issues of the industry and to provide possible solutions to those issues.

Campus

Hawthorn

Course duration

Certificate: One semester full-time or two semesters part-time.
Diploma: Two semesters full-time or equivalent part-time.
Masters: Three semesters full-time or equivalent part-time.

Structure

The short course element of the program will be conducted at the teaching complex at Avalon International Airport. Any other teaching will be conducted at the Hawthorn campus or at Avalon. Motel accommodation is available close to Avalon International Airport at reasonable rates for students on the short course program. Payment for this will be arranged separately as part of the short course administration. Avalon can also be reached by car on a daily basis from the city. Ample parking is available on site.

Admission dates for individual programs will normally be in February or July or alternatively in November. Ample parking is available on site.

Further information

Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

METROLOGY

IRMQ1 Graduate Certificate of Engineering (Metrology and Quality)

This is a unique course covering theoretical and practical aspects involved in metrology and quality. It has been developed in collaboration with the Metrology Society of Australia (MSA). The course covers measurement, standards and metrology. One of four areas of specialisation may be selected, and students gain practical experience in the elements of metrology. The four areas of specialisation are: dimensional and mechanical, electrical and time and frequency, chemical and temperature, optical and radiometry.

The major part of the course is delivered by distance education, and subjects are presented by recognised experts in the field of metrology and quality.

The course provides skills that will enable participants to:
- Calculate the uncertainty of measurement.
- Select and apply an appropriate statistical technique for a measurement task.
- Understand basic metrological terms.
- Explain the role of NATA, NSC, CSIRO, ISO, SA, BIPM.
- Write and update a quality manual.
- Understand different quality standards and their purpose.
- Understand the calibration process.
- Manage a measurement system.
- Design practical measurements according to metrological practices and standards.
- Conduct measurements using standard equipment and instruments.
- Competently analyse and report experimental results.

Aims & Objectives

The Graduate Certificate in Metrology & Quality has the following objectives:
- To provide training and experience in specific areas of Metrology.
- To provide individuals already working in Metrology with greater rigour in their understanding of the principles and practices involved, and to provide training for others desiring to transfer into the area from other industry positions.
- To provide a distance mode of delivery to enable those students who are employed in this field to learn in the workplace, while continuing to work.
- To prepare students for higher degree studies, and to provide a basis for entry into a Master of Engineering by research program in cases where a student achieves a high level of performance.
The general aims of the course are to provide graduates with:

- High levels of both logical and lateral thinking development so that the graduates can lead constructive change through innovation.
- The ability to use a multi-disciplinary engineering philosophy towards the synthesis, design and integration of solutions.
- A level of professional development in confidence, judgment and experience such that the implementation of proposed solutions proceeds successfully.

The specific aims of the course are to:

- Develop integrated circuit design expertise in embedded system, digital, mixed signal and system-on-chip develop understanding of the device physics, fabrication process and testing needed by IC designers.
- Develop the advanced technical skills necessary to master state of the art microelectronic technology.
- Develop research skills necessary to obtain specialist knowledge of subjects pertinent to integrated circuit design.
- Cultivate logical and lateral thinking that leads to creation and innovation in the pursuit of solutions to engineering problems.

### Campus

Distance Education/Learning

### Course duration

One semester full-time or equivalent part-time.

### Structure

The course consists of four subjects. The first three subjects are delivered via distance education. The fourth subject, Metrology and Quality Practices, combines both distance education and a short intensive period of workshop and laboratory exercises and offers specialisation in one of the following areas: Dimensional & Mechanical, Electrical & Time & Frequency, Chemical & Temperature and Optical & Radiometry.

### Course subjects

- **HIR101** Experimental Analysis
- **HIR102** Measurement Systems
- **HIR103** Calibration, Documentation and Laboratory Management
- **HIR104** Metrology and Quality Practices

### Entry requirements

A diploma or degree in engineering or science from a recognised tertiary institution and relevant industrial experience. Consideration will be given to those who do not possess formal qualifications, but can demonstrate substantial industrial experience.

### Application procedure

Direct application to the Industrial Research Institute Swinburne (IRIS) should be made on the relevant form available from IRIS’s administration office.

### Further information

Contact the Industrial Research Institute Swinburne (IRIS) on +61 3 9214 8600

### MICROELECTRONICS

**E102** Graduate Certificate of Engineering (Microelectronic Engineering)

**E101** Graduate Diploma of Engineering (Microelectronic Engineering)

**E100** Master of Engineering (Microelectronic Engineering)

The major role of professional engineers in the Australian workforce is to act as agents for change through the development of technically sound, economically viable and socially acceptable solutions to complex and new technical problems. In this context, the microelectronics engineer today is faced with many challenges brought about by the rapid advances in computer, multimedia and telecommunication technology.

The Master of Engineering in Microelectronic design stream addresses all aspects of this technology, from high level specification of microelectronic systems, through implementation alternatives, to realisation of integrated circuits. The course aims to produce engineers with the necessary skills and practical experience to satisfy the requirements of the microelectronics industry. An important feature of the course is the opportunity it provides for the students to design their own integrated circuits.

The Chipskills project is a Victorian Government initiative that seeks to develop a range of professional and vocational training programs in areas relevant to the semiconductor industry. The project has been supported by the Victorian Government to the amount of $7.1M over the 2000-2002 period. The project involves a consortium of Victorian universities, TAFE colleges and industries. The partner universities in the consortium are: Swinburne University of Technology, RMIT University, Latrobe University and Victoria University.

### Aims & Objectives

The general aims of the course are to provide graduates with:

- To prepare researchers embarking on experimentation programs in the application of techniques and practices used in measurement.

The completion of Graduate Certificate in Microelectronic Engineering requires successful completion of either eight units and minor project, and the Master of Engineering in Microelectronic Engineering requires successful completion of either eight units and major project or ten units and minor project.

For the coursework component, a full-time student will take four units per semester taught in the evening. Where feasible, the Masters program will be structured as two semesters of coursework, followed by a one semester project. This means that students will be available to the industry after only one year (perhaps on a ‘cadet’ or trial basis for one semester), if they are permitted to undertake their project as part of their employment.

### Course subjects

<table>
<thead>
<tr>
<th>Semester 1 (Graduate Certificate)</th>
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<tbody>
<tr>
<td>MMV8001</td>
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<tr>
<td>MMV8002</td>
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<tr>
<td>MMV8003</td>
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<tr>
<td>1 Unit from Electives</td>
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<tr>
<th>Semester 2 (Graduate Diploma)</th>
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<tbody>
<tr>
<td>8 Course Units, OR</td>
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<tr>
<td>6 Course Units &amp; Minor Project</td>
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<tr>
<td>The course units must include the 3 core units, Project Management and Entrepreneurship and 2/4 units from electives.</td>
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<table>
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<tr>
<th>Semester 3 (Masters)</th>
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<tbody>
<tr>
<td>8 Course Units &amp; Major Project, OR</td>
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<tr>
<td>10 Course Units &amp; Minor Project</td>
</tr>
<tr>
<td>The course units must include the 3 core units, Project Management and Entrepreneurship and 4/6 units from electives</td>
</tr>
</tbody>
</table>

### Electives

- MMV8004 Digital System Design
- MMV8005 Embedded Systems
- MMV8006 Emerging Topics in IC Design
- MMV8007 Advanced VLSI Design
The major objectives of this program are:

- To introduce the students to the concepts of microengineering underpinning their relevance to the macro world.
- To develop the awareness and understanding of the processing technologies.
- To impart the skills necessary to design and simulate the microsystems using specific software tools.
- To provide students with an appreciation of the most recent applications of microsystems.

### Campus

**Hawthorn**

### Career opportunities

The expected market for products using microtechnology has been projected to exceed over A$50 billion by 2002. The microsensors and actuators will have a key role in the automotive systems, advanced satellite systems, real time bio-analytical systems and many more. There has been a dearth of professionals trained in this area globally. The professional engineers with a sound postgraduate qualification and comprehensive understanding of the design and fabrication technologies will have excellent opportunities for employment in a wide range of industries and research organisations. Internationally, many new graduates rapidly go on to form their own companies.

### Course duration

- **Graduate Certificate**: One semester full-time or equivalent part-time.
- **Graduate Diploma**: Two semesters full-time or equivalent part-time.
- **Masters**: Three semesters full-time or equivalent part-time.

### Structure

Each subject is delivered on a modular basis, normally outside of business hours, over a two-week period. Assessment for each subject normally occurs three weeks after delivery. Students must achieve 100 credit points with an average of not less than 65% at Graduate Diploma level to continue through to the Masters program. Alternatively, students may be permitted to complete at Graduate Certificate or Graduate Diploma level.

### Course subjects

**Semester 1 (Graduate Certificate)**

- HIR110 Product Management and Innovation
- HIR111 Micromachining Technology

**Semester 2 (Graduate Diploma)**

- HIR112 Deposition and Replication
- HIR113 Microsystems - Principles, Design & Applications
- HIR114 Computer Modelling and FEA
- HMM667 Computer Control and Sensing

**Semester 3 (Masters)**

- HIR115 Minor Thesis

### Entry requirements

A degree in engineering, science or design. Applicants with other qualifications and experience which, in the opinion of the selection committee, are of satisfactory standard will also qualify for entry.

**Application procedure**

Direct application to the Industrial Research Institute Swinburne (IRIS) should be made on the relevant form available from IRIS’s administration office.

### Further information

Contact the Industrial Research Institute Swinburne (IRIS) on +61 3 9214 8600.
MODELLING and PROCESS ANALYSIS

M070 Graduate Certificate of Engineering (Modelling and Process Analysis)
M071 Graduate Diploma of Engineering (Modelling and Process Analysis)
M072 Master of Engineering (Modelling and Process Analysis)

Over the past fifteen years, modelling and process analysis capabilities in engineering have increased immensely with the advent of the affordable computer. However, the impact of engineering workstations on modelling and process analysis has really only started to emerge as the engineering tool of the future with recent quantum leaps in performance and dramatic reductions in hardware costs.

Numerical techniques have been used for many years, but they will become increasingly important as the modern engineering workstation is capable of solving more significant problems. Some opinions are that modelling and process analysis as we know it today with finite volume and finite element techniques will be expanded into the realm of virtual reality modelling. This way processes will not only be modelled by solving equations at the various nodes or boundaries of the computational mesh, but the modelling will be one level deeper where the interactions between the various components of the process will be modelled. It will, for example, be possible to model the complete behaviour of the molecules of the different fluids whilst interacting with one another chemically and dynamically as they flow through a flow field. It will also be possible to model the strain of a metallurgical alloy subjected to a force in such a way that the various components of the alloy are modelled on a microscopic level.

Measurement techniques have also seen a tremendous growth in capability and accuracy. It is now possible to take velocity measurements inside a molten steel bath subjected to swirl. Laser techniques can now measure velocities or count particles in a flow field without physically entering the flow field. This is much more convenient and creates no distortion in the flow field which leads to an increase in accuracy.

Aims & Objectives

The aim of the course is to advance the knowledge and skills of graduate students in the Modelling and Process Analysis disciplines to comply with the requirements from industry, locally and worldwide. To achieve this aim, the course is divided into three stages, each of which aims to prepare the student for the next.

The objectives of the proposed course are:

- To develop the basic skills in thermo-fluids engineering.
- Give a solid foundation in numerical methods.
- Teach an acceptable level of CAD proficiency.
- To develop a basic understanding of expert systems and some understanding of technology modelling.
- Develop an advanced knowledge of diagnostics techniques and a thorough understanding of scale modelling.

Campus
Hawthorn

Course duration
Certificate: Six months full-time or one year part-time.
Diploma: One year full-time or two years part-time.
Masters: Three semesters full-time or six semesters part-time.

Structure

The course is divided into three stages, each of which aims to prepare the student for the next. At Stage 1 (Graduate Certificate), a program of foundation subjects are offered which cover the basics of the disciplines involved. Stage 2 (Graduate Diploma) provides the student with a solid base of advanced technologies frequently used in modern industry. Finally, at Stage 3 (Masters) students will be granted the opportunity to apply these technologies to a project. Students who successfully complete a stage, may exit with the relevant qualification or progress to the next stage.

Candidates for all three courses must be aware that there are limits to the provision of multiple awards. Students who continue from one stage to the next without interruption to their enrolment will NOT be eligible to take the award of the stage just completed. In this way students may not seek multiple awards for the same study sequence.

Course subjects

Stage 1 (Graduate Certificate)
HMM638 Advanced Energy Systems
HMM639 Introduction to Programming for Engineers & Virtual Reality
HMM662 Computer Aided Design

Introduction to Numerical Modelling & Computing for Engineers

Stage 2 (Graduate Diploma)
HMM653 Expert Systems, Simulation and Modelling
HMM645 Object Oriented Numerical Computing for Engineers
HMM646 Advanced Experimental Modelling Techniques
HMM647 Numerical Analysis with Engineering Applications

Stage 3 (Masters)

Research Project

Entry requirements

A degree or diploma in engineering or science from a recognised tertiary institution or approved equivalent. Applicants with qualifications and experience which, in the opinion of the selection committee, are of satisfactory standard will also qualify for entry.

Application procedure

Applications should be made directly to the School of Engineering & Science. Applications must be accompanied by a certified copy of original transcripts of official results.

Further information

Contact the School of Engineering and Science
Telephone: +61 3 9214 8272
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

NETWORK SYSTEMS

SO49 Graduate Certificate of Science (Network Systems)
SO59 Graduate Diploma of Science (Network Systems)
SO69 Master of Science (Network Systems)

The Master of Science in Network Systems is part of a nested suite of programs, which also includes a Graduate Certificate, and a Graduate Diploma with different entry points depending upon previous academic studies and work experience.

The program is intended both for new graduates and for retraining experienced graduates who wish to update their skills or change their area of specialisation. It is concerned with the design, management and maintenance of networks in corporations, and public networks, or service provision to public and private networks.

The convergence of computing and telecommunications is creating a new kind of networking technology based on IP networks and multimedia applications. Networks today are expected to offer multimedia services anywhere and any time. Within corporations, intranets support the interaction of people and the linking of people to information systems. There is an increasing demand for mobility. People increasingly expect seamless access to global networks. IP networking is expected to be everywhere and to offer multimedia services of all types.

Aims & Objectives

The aim of this course is to provide excellent career opportunities by offering a high level coverage of networking principles and an appreciation of the emerging issues and technologies in networks, together with specific competencies (industry certification material such as Cisco CCNA* and CCNP* and Microsoft MCSE*).
* Certification examinations are not part of this course. In some cases the course covers only part of the requirements.

**Campus**
Hawthorn

**Career opportunities**
Industry certified skills are highly valued, and there is a need for professionals with a solid understanding of the design, management and maintenance of modern networks.

**Professional recognition**
The CCNA, CCNP and MCSE certifications are widely recognised and valued in industry. This course fully prepares students for the CCNA certification exam and partly for MSCE and CCNP.

**Course duration**
Graduate Certificate: One semester full-time or equivalent part-time.
Graduate Diploma: Two semesters full-time or equivalent part-time.
Masters: Three semesters full-time or equivalent part-time.

**Structure**
The Graduate Certificate requires the completion of four subjects for a total of 50 credit points. After successful completion of four subjects, students may exit with a Graduate Certificate in Network Systems or progress to the Graduate Diploma and Master levels.

The Graduate Diploma requires the completion of eight subjects for a total of 100 credit points. After successful completion of eight subjects, students may exit with the Graduate Diploma of Science in Network Systems or transfer to the Master program.

The Masters program requires the completion of twelve subjects for a total of 150 credit points. Each subject has a value of 12.5 credit points. Scheduled contact is equivalent to 4 hours x 12 weeks for a 12.5 credit point subject. Up to 50 credit points can be replaced with Research Project/Minor Thesis (subject to case-by-case approval).

Single subject enrolment is also available, subject to availability of places.

Full-time or part-time study, with most subjects available in the evening, conducted at the Hawthorn campus.

**Course subjects**
Each subject has a value of 12.5 credit points unless otherwise indicated.

- HET706 Networks and Routing
- HET708 Internetworking Technologies
- HET710 Network Administration *
- HET712 Enterprise Networking #
- HET713 Internetwork Routing $
- HET753 Remote Access Networks $
- HET715 Network Computing
- HET716 Networked Applications
- HET717 Simulation of Networks
- HET718 Mobile and Personal Networking
- HET729 Design and Management of Networks
- HET720 Real Time Operating Systems

Development and research projects are available for approved students as follows:

- HET724 Research Paper (12.5 credit points)
- HET725 Research Report (25 credit points)
- HET721 Minor Thesis (50 credit points)

* Prepares students for CCNA (Cisco Certified Network Associate) Qualification.
# Prepares students for MCSE (Microsoft Certified Systems Engineering) Qualification. Covers four core units of MCSE.
$ Prepares students for CCNP (Cisco Certified Network Professional) Qualification. Each subject covers 1/4 CCNP.

**Entry requirements**
A degree or equivalent in engineering, science, information technology, or in business or commerce with an emphasis on information technology. Applicants without a relevant qualification but with substantial relevant experience, may gain entry into the Graduate Certificate of Science in Network Systems.

**Application procedure**
Contact the School of Biophysical Sciences and Electrical Engineering to obtain a direct application form. Application forms are also available at: www.swin.edu.au/hed/grad/postgrad.htm.

- Early March intake: apply mid-November (timely), or mid-January (late).
- Preference will be given to timely applicants. Mid-July intake: apply by the end of June.

**Further information**
Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: www.swin.edu.au/bioscieleceng

**PAVEMENT TECHNOLOGY**

**CE60  Graduate Certificate of Engineering (Pavement Technology)**

**CE70  Graduate Diploma of Engineering (Pavement Technology)**

**CE80  Master of Engineering (Pavement Technology)**

The suite of postgraduate programs in pavement technology is designed to develop expertise in the technical and managerial aspects of the industry. The use of industrial practitioners, to bring current case studies into the class for presentation and discussion, is a particular feature of many of the subjects, thus keeping the course relevant.

**Aims & Objectives**
The objective of the program is to provide a body of advanced study in subjects related to Pavement Technology. The program assists the student to gain knowledge through lectures and case studies and to develop new knowledge through research. The advanced study includes:

- The development of analytical skills of application to pavement technology.
- An understanding of the process involved in pavement technology.
- The development of computer skills to understand the application of computer systems in pavement technology.
- An examination of the current issues related to pavement technology within the country and offshore.
- Acquisition of advanced skills to appreciate the complex issues of pavement technology and to provide possible solutions to those issues.

**Campus**
Hawthorn

**Course duration**
Certificate: One semester full-time or equivalent part-time.
Diploma: Two semesters full-time or equivalent part-time.
Masters: Three semesters full-time or equivalent part-time.

The Masters program may also be offered in a format which will allow students to complete studies in less than eighteen months by including most of the project component in a summer semester.

**Structure**
To qualify for the Graduate Certificate students complete four subjects (12.5 credit points each) from those listed below for a total of 50 credit points.

To qualify for the Graduate Diploma, students complete the requirements of the Graduate Certificate (4 subjects x 12.5 credit points each), plus a further 4 subjects (not completed at the Certificate level) for a total of 100 credit points.
To qualify for the degree of Master, students complete the requirements of the Graduate Certificate and Graduate Diploma (8 subjects x 12.5 credit points each), plus a research project (50 credit points).

Course subjects

**Stage 1 (Graduate Certificate)**
Select 4 subjects from the following groups:
- HCE600 Introduction to Pavements
- HCE601 Pavement Design
- HCE602 Pavement Construction
- HCE603 Pavement Wearing Surfaces
- HCE604 Asphalt Mix Design
- HCE605 Pavement Maintenance, Rehabilitation & Recycling

A maximum of two subjects may be selected from:
- HCE690 Civil Engineering Project Control
- HCE691 Civil Engineering Management
- HCE692 Communications
- HCE790 Financial Project Control

**Stages 1 & 2 (Graduate Diploma)**
Select 8 subjects from the following groups:
- HCE600 Introduction to Pavements
- HCE601 Pavement Design
- HCE602 Pavement Construction
- HCE603 Pavement Wearing Surfaces
- HCE604 Asphalt Mix Design
- HCE605 Pavement Maintenance, Rehabilitation & Recycling
- HCE606 Industrial & Heavy Duty Pavements
- HCE607 Pavement Management Systems

A maximum of 2 subjects may be selected from:
- HCE690 Civil Engineering Project Control
- HCE691 Civil Engineering Management
- HCE692 Communications
- HCE790 Financial Project Control

**Stage 3 (Masters)**
- HCE773 Research Project (50 Credit Points)

**Entry requirements**
A four-year engineering degree or equivalent. Applicants with other qualifications and experience which, in the opinion of the School, are of satisfactory standard will also qualify for entry. In some cases extra preliminary study may be required.

**Application procedure**
Application forms are available from the School of Engineering & Science. Applications must be accompanied by a certified copy of original transcripts of official results.

**Further information**
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au

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**PRODUCT DESIGN INNOVATION**

**IRPD1** Graduate Certificate of Engineering (Product Design Innovation)
**IRPD2** Graduate Diploma of Engineering (Product Design Innovation)
**IRPD3** Master of Engineering (Product Design Innovation)

The Product Design Innovation program combines aesthetics and other elements of industrial design with engineering design and technology within the domain of product innovation. The programs are expected to meet the needs of professionals working in engineering, science or industrial design fields who seek advanced studies in product design. The programs have been developed with extensive consultation with professionals in the Australian industry, and with a view of world trends in postgraduate education in product design.

The course is structured into three components. The first involves the acquisition of industrial design and computer-based modelling skills and an understanding of design concepts, while the second focuses upon engineering and business management elements in product design innovation. Finally, the research project brings together these skills in new product development. Throughout the course the explicit focus, and the context of all work, will be product innovation for manufacturing industry with an emphasis on design of plastic products. The research project will be presented in a design exhibition which will be open to the public.

**Aims & Objectives**
The program aims to integrate skills of engineering and industrial design for the development of new and innovative products for the manufacturing industry by:
- Providing students with skills in industrial design and advanced computer-based modelling and simulation.
- Providing students with an understanding of design concepts, product development and product innovation for the manufacturing industry.
- Providing students with an appreciation of engineering and business management elements in product design innovation.
- Imparting advanced knowledge in product design in the areas of aesthetics, materials, modelling and prototyping with a focus on mass production and plastic products.
- Providing knowledge and experience in presentation of product design projects to peer groups and a wider audience.

**Campus**
Hawthorn, Prahran.

**Course duration**
Graduate Certificate: One semester full-time or equivalent part-time.
Graduate Diploma: Two semesters full-time or equivalent part-time.
Masters: Three semesters full-time or equivalent part-time.

**Structure**
Each subject is delivered on a modular basis, normally outside of business hours, over a two-week period. Assessment for each subject normally occurs three weeks after delivery.

Students must achieve 100 credit points with an average of not less than 65% at Graduate Diploma level to continue through to the Masters program. Alternatively, students may be permitted to complete at Graduate Certificate or Graduate Diploma level.

**Course subjects**

**Semester 1 (Graduate Certificate)**
- HIR105 Computer Aided Design
- HDI0501 Techniques of Industrial Design
- HIR106 Product Management and Innovation
- HIR107 Plastics Technology for Product Design

**Semester 2 (Graduate Diploma)**
- HIR108 Computer Simulation and Optimisation for Plastic Products
- HDI0502 Product Design 1
Aims & Objectives
This program addresses needs of industry to improve the management of resources associated with short and long term risk to people, assets and production. The program provides further studies for graduates from all branches of engineering, applied science and business who wish to gain more specialist knowledge in Risk Management.

Career opportunities
There are many ways in which organisations can suffer loss. Consequently a number of organisations employ professionals in order to ensure that adequate loss prevention management processes and strategies are in place. Career opportunities therefore exist throughout the broad field of commerce and industry.

Course duration
Certificate: One year part-time commencing in March.
Diploma: Two years part-time commencing in March.
Masters: Three years part-time commencing in March.

Structure
The course is divided into three stages, each of which aims to prepare the student for the next level of study. Successful completion of Stage 1 (Graduate Certificate) may lead to the Graduate Diploma and Master of Technology (Risk Management).

Course subjects
Stage 1 (Graduate Certificate)
HMM720 Risk Perception and Analysis
HMM721 Risk Management Principles
HMM722 Quantitative Risk and Modelling
HMM723 Financial Risk Management

Stage 2 (Graduate Diploma)
HMM724 Risk Management Systems
HMM725 Risk Technology Strategies
HMM726 Industrial Environment and Human Factors in Risk
HMM727 Risk Research and Project

Stage 3 (Master)
HMM911 Risk Dissertation

Entry requirements
A degree or diploma in a professional field from a recognised tertiary institution or approved equivalent. Applicants with qualifications and experience which, in the opinion of the Selection Committee, are of satisfactory standard will also qualify for entry.

Application procedure
Applications should be made directly to the School of Engineering & Science. Applications must be accompanied by a certified copy of original transcripts of official results.

Further information
Contact the School of Engineering & Science
Telephone: +61 3 9214 8372
Fax: +61 3 9214 8264
Email: engsci@swin.edu.au
Graduates who hold a Bachelor degree and who have shown a high standard of
make on the relevant form available from IRIS's administration office.
Direct application to the Industrial Research Institute Swinburne (IRIS) should be
made on the relevant form available from IRIS's administration office. In addition, graduates may also seek employment related to
the marketing of hardware/software systems or as consultants.

Course duration
Graduate Certificate: One semester full-time or equivalent part-time.
Graduate Diploma: Two semesters full-time or equivalent part-time.
Masters: Three semesters full-time or equivalent part-time.

Structure
Each subject is delivered on a modular basis, normally outside business hours,
over a two week period. Assessment for each subject normally occurs three
weeks after delivery.
Students must achieve 100 credit points with an average of not less than 65% at
Graduate Diploma level to continue through to the Masters program. Alternatively, students may be permitted to complete at Graduate Certificate or Graduate
Diploma level.

Course subjects

Semester 1 (Graduate Certificate)

HMM662 Computer Aided Design
HMM664 Advanced Robotics
HMM635 Robot Systems
HMM665 Numerical Control Systems

Semester 2 (Graduate Diploma)

HMM634 Non-Contact Inspection
HMM667 Computer Control and Sensing
HMM655 Decision Analysis
HMM669 Computer Modelling and FEA

Semester 3 (Masters)

HMM637 Project

Entry requirements
An engineering degree from a recognised tertiary institution or such qualification or experience which in the opinion of the selection committee is of a satisfactory standard and suitable preparation for entry to the program.

Application procedure
Direct application to the Industrial Research Institute Swinburne (IRIS) should be made on the relevant form available from IRIS's administration office.

Further information
Contact the Industrial Research Institute Swinburne (IRIS) on +61 3 9214 8600

HIGHER DEGREES BY RESEARCH

Y007 Doctor of Philosophy (Electrical Engineering)

Graduates who hold a Bachelor degree and who have shown a high standard of academic achievement in that course may be admitted to candidate for the
degree of Doctor of Philosophy. The higher degree programs currently available require the presentation of a major thesis based on original research, investigation or development work, carried out either within Swinburne or externally, providing that adequate facilities and supervision can be arranged. External work can be carried out in the approved industrial, governmental, educational or research organisation.
The Statute for the degree of Doctor of Philosophy sets out the regulations governing this qualification. See website:  www.swin.edu.au/sgrs/regs/ phdpolicy.htm

Aims & Objectives
The PhD degree provides training and education with the objective of producing graduates with the capacity to conduct research independently at a high level of originality and quality. The student ought to be capable by the end of his/her candidature of conceiving, designing and carrying to completion a research program without supervision. The PhD candidate should uncover new knowledge either by the discovery of new facts, the formulation of theories or the innovative re-interpretation of known data and established ideas.

Campus
Hawthorn

Course duration
The expected normal duration of candidature is 3.5 years full-time or 6 years part-
time.

Structure
Candidates normally undertake the research at Swinburne for the appropriate
duration and, especially part-time candidates and those based in industry, must be
able to demonstrate to the satisfaction of the Committee that they are able to
meet with their supervisors in person to discuss progress at least once every
calendar month or have made satisfactory arrangements for discussion to occur by
other means (e.g. via email).

All candidates are expected to demonstrate satisfactory progress on an annual
basis. To be assessed for a Doctor of Philosophy, candidates must present a major
thesis based on original research, investigation or development work carried out
under Swinburne staff supervision either at Swinburne or externally.

Entry requirements
Applicants should have a bachelor's degree with honours (first or second class), or
the equivalent in a discipline appropriate to the proposed area of study. The level of academic achievement in prior studies should be of a very high standard. Other
relevant activities, including work experience, may be taken into account in
assessing applications.

Application procedure
Application forms are available from the Swinburne Graduate Research Centre.

Further information
Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email:  bsee@swin.edu.au
Website:  www.swin.edu.au/bioscieleceng

Y097 Master of Engineering (Electrical Engineering) by Research

Masters students generally undertake their formal and supervised research
training over a period of two years full-time or four years part-time. Research can be
undertaken at Swinburne, or approved external organisations. Students holding a Bachelors degree with honours, or other qualifications deemed equivalent, are eligible for admission. A major thesis is the sole form of
assessment for this award.

Research in this course is concentrated in two Centres:

Centre for Intelligent Systems
Concentrates on developing and applying artificial networks, expert systems, fuzzy
logic and genetic algorithms.
Swinburne Laboratory for Telecommunications Research

Provides a focus for research into the rapidly evolving digital transmission technologies, including optic fibre-based and radio-based mobile, multimedia and multimedia service networks.

Campus
Haithorn

Course duration
Masters students generally undertake their formal and supervised research training over a period of two years full-time or four years part-time.

Structure
Masters students generally undertake their formal and supervised research training over a period of two years full-time or four years part-time. Research can be undertaken at Swinburne or an approved external organisation. Students holding a Bachelors degree with honours, or other qualifications deemed equivalent, are eligible for admission. A major thesis is the sole form of assessment for this award.

Application procedure
Contact the School of Biophysical Sciences and Electrical Engineering

Further information
Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8959
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: www.swin.edu.au/bioscieleceng

HEALTH and HUMAN SERVICES

APPLIED STATISTICS

Z191 Graduate Certificate of Science (Applied Statistics)
Z192 Graduate Diploma of Science (Applied Statistics)
Z193 Master of Science (Applied Statistics)

This program is designed for graduates in the humanities and social sciences who have a professional interest in the use of statistics. It is also applicable to other graduates who have a need to use statistics in their work but have not had sufficient or current training in the area. It concentrates on practical skills and enables participants to broaden their theoretical and practical knowledge of the basic areas of applied statistics.

Campus
Haithorn

Career opportunities
Graduates are employed in a wide variety of areas including government agencies, market research, education, behavioural medical and biological sciences, town planning and social research.

Course duration
Graduate Certificate: Two semesters part-time or one semester full-time.
Graduate Diploma: Four semesters part-time or two semesters full-time.
Masters: Three years part-time or one and a half years full-time.

Structure
Graduate Certificate students complete four subjects from level 1. No exemptions are available to candidates for the Certificate, though in certain circumstances students may be allowed to substitute another subject for one of those listed. This would normally come from the subjects listed in the Graduate courses in Applied Statistics at Swinburne University of Technology. Graduate Diploma students undertake eight subjects which can include four subjects undertaken in the Graduate Certificate.

Note:
1. At least three subjects must be from level 2 or 3.
2. A maximum of two other approved subjects may be substituted for two of the subjects listed (one from each level).
3. A maximum of two exemptions are permitted.
4. All the subjects will not necessarily be offered each year.

Master students undertake ten subjects from those listed below, plus a 25 credit point Industrial/Research project. It is preferred, but not essential, that the problem be employer based and have direct relevance to the student's employment.

Note: At least six subjects must be from levels 2 or 3 of which at least two must be from level 3.

The class contact hours for each subject will normally be three hours per week for one semester, consisting of a combination of lectures and practical work as applicable to the topic. All academic subjects carry 12.5 credit points. Some subjects are available in an off-campus learning mode (Distance Learning).

Course subjects

Level 1
HMS770 Statistical Practice 1
HMS771 Statistical Practice 2
HMS772 Basic Statistical Computing
HMS773 Survey Research Practice
HMS774 Introduction to Health Statistics
HMS775 Chance and Gaming

Level 2
HMS780 Multivariate Statistics
HMS781 Further Statistical Computing
HMS782 Forecasting
HMS783 Demographic Techniques
HMS784 Regression Models in Health
HMS785 Epidemiological Methods
HMS786 Survey Sampling
HMS787 Database Development and Management
HMS788 Sports Performance Modelling

Level 3
HMS791 Structural Equation Modelling
HMS792 Scale Development and Evaluation
HMS793 Advanced Topics in Regression
HMS794 Statistical Marketing Tools
HMS790 Industrial/Research Project (25.0 credit points)

Entry requirements
A degree from a recognised tertiary institution or approved equivalent. Applicants with appropriate work experience and other qualifications will also be considered.

Application procedure
Direct application to the School of Mathematical Sciences or via the website at: www.swin.edu.au/hed/postgrad/application.htm
International students should contact the International Student Unit on +61 3 9214 8647 or email: isuenq@swin.edu.au.

Further information
Contact the School of Mathematical Sciences
Telephone: +61 3 9214 8936 or +61 3 9214 8484
Fax: +61 3 9819 0821
Email: statistics@swin.edu.au
Website: http://swin.edu.au/statistics

Swinburne University of Technology | Higher Education Handbook 2002
**COUNSELLING**

**N0805  Graduate Diploma of Social Science (Human Services - Counselling)**

The Graduate Diploma of Social Science (Human Services - Counselling) offers high quality training in basic counselling theory and skills applicable to individuals, couples, families and groups. The course introduces students to the ethical dilemmas faced and ethical conduct required by counsellors in the human services industry.

**Aims & Objectives**

This course is designed to provide:
- Training in basic counselling theory and skills applicable to individuals, couples, families and groups.
- An introduction to the ethical dilemmas faced and ethical conduct required by counsellors in the human services industry.
- An understanding of the special needs of particular population groups and assessment issues such as suicide and risk of danger, child abuse, psychiatric disturbance and the use of available social supports and community resources.
- Advanced counselling skills.
- Practical experience, through either work based placements or special application training courses, tailored to the requirements of individual students.

**Campus**

Hawthorn

**Course duration**

Two years (4 semesters) part-time.

**Structure**

Each coursework subject involves 2 or 3 hours per week of class attendance. Special applications subjects being offered may alternate semesters from year to year.

**Course subjects**

**Year 1**

**Semester 1**
- HAY444 Foundations of Counselling
- HAY445 Ethical and Social Issues for Counsellors

**Semester 2**
- HAY448 Special Application Subject: Trauma, Loss and Grief, OR
- HAY450 Supervised Practice A

**Year 2**

**Semester 1**
- HAY447 Issues for Special Population Groups
- HAY446 Advanced Counselling, Assessment and Behaviour Change

**Semester 2**
- HAY449 Special Application Subject: Addiction Counselling, OR
- HAY451 Supervised Practice B

**Entry requirements**

A degree from a recognised tertiary institution or approved equivalent. Preference may be given to those currently working in the human services industry.

**Application procedure**

Application forms are available from the School of Social and Behavioural Sciences on +61 3 9214 5209 or email: sbsadmin@swin.edu.au.

**Further information**

Contact the School of Social and Behavioural Sciences
Telephone: +61 3 9214 5209
Email: sbsadmin@swin.edu.au
Website: www.swin.edu.au/sbs

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**HOUSING MANAGEMENT and POLICY**

**N079  Graduate Certificate of Social Science (Housing Management and Policy)**

**N0807  Graduate Diploma of Social Science (Housing Management and Policy)**

**N0903  Master of Social Science (Housing Management and Policy)**

This nested suite of programs is designed for people working in the public and community housing sectors and related industries, such as real estate and property development. It is a distance education course and is therefore available to students Australia-wide.

The Graduate Certificate, Graduate Diploma and Master of Social Science in Housing Management and Policy are postgraduate professional qualifications which provide knowledge and skills in research, policy development, and the Australian context and system of housing management. The course contains original and contemporary subject material.

**Aims & Objectives**

The aim of the course is to provide people working in the housing industry with the practical and conceptual skills necessary for management, administration and policy development in housing provision. The course content is therefore split between housing issues and skills in administration, management, research and policy.

The formal objectives of the course are:
- To provide knowledge of, and experience in, the analysis of Australia’s housing system and the social and economic problems which characterise it.
- To promote transferable communication skills - analytical, written and technological.
- To enhance portable research, discovery and information retrieval skills.
- To promote an array of transferable problem solving, organisational and management skills in the specialised area of housing assistance.
- To facilitate technical competence in the management of a housing service.
- To develop a client value based management culture in the delivery of housing assistance.
- To link the formal training offered by this course with training in the work setting.

**Campus**

Distance Education/Learning

**Career opportunities**

Graduates of the course will be able to move between community and public sectors as a result of skills and knowledge acquired.

**Course duration**

Graduate Certificate: Two years part-time.
Graduate Diploma: Three years part-time.
Masters: Four years part-time.

**Structure**

This is a nested suite of programs. It is styled on a ‘4+2+2’ basis. Students who have successfully completed the three core subjects plus 1 elective will receive the Graduate Certificate. The Graduate Diploma requires a further 2 subjects plus a research report. On successful completion of the Graduate Diploma a student may apply to undertake the Masters degree. The Masters requires a further 2 subjects plus a minor thesis.

This part-time program has been developed for distance education offering self-paced learning. Each subject is taught over a semester and each week the workload will involve approximately three hours reading of notes, two to three hours of reference reading, and additional time for exercises. It is possible to complete 2 subjects per semester at Graduate Diploma or Masters level.

**Single subjects**

Students may only enrol in one single subject per course, and the fee is $900 per subject. Should a student decide to consolidate a single subject into an accredited program, full course fees will apply, and an additional charge of up to $350 per subject.
subject will be made. On completion of the subject, students will receive a pass or fail and statement of completion.

Course subjects (Graduate Certificate)

Year 1

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td>HAS487</td>
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<td>Housing Management and Administration</td>
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Year 2

<table>
<thead>
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<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td>HAS488</td>
<td>HAS489</td>
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<td>Housing Policy and Research</td>
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Course subjects (Graduate Diploma)

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<tbody>
<tr>
<td>HAS485</td>
<td>HAS486</td>
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<tr>
<td>The Australian Housing System</td>
<td>Housing Policy and Research</td>
</tr>
</tbody>
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<table>
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<tr>
<th>Semester 2</th>
<th>Year 2</th>
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<tbody>
<tr>
<td>HAS487</td>
<td>HAS488</td>
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<tr>
<td>Housing Management and Administration</td>
<td>Housing Economics and Finance</td>
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Plus two of:

<table>
<thead>
<tr>
<th>Subject</th>
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<tr>
<td>HAS489</td>
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<td>HAS493</td>
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Course subjects (Master)

<table>
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<tr>
<th>Semester 2</th>
<th>Year 1</th>
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<tr>
<td>HAS485</td>
<td>HAS486</td>
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<tr>
<td>The Australian Housing System</td>
<td>Housing Policy and Research</td>
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<th>Semester 2</th>
<th>Year 2</th>
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<tbody>
<tr>
<td>HAS487</td>
<td>HAS488</td>
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<tr>
<td>Housing Management and Administration</td>
<td>Housing Economics and Finance</td>
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<th>Semester 2</th>
<th>Year 2</th>
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<tbody>
<tr>
<td>HAS489</td>
<td>HAS493</td>
</tr>
<tr>
<td>Issues in Housing Provision</td>
<td>Property Management</td>
</tr>
</tbody>
</table>

Plus two of:

<table>
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<tr>
<th>Subject</th>
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<td>HAS491</td>
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Entry requirements

Applicants should have at least five years appropriate work experience in housing management and administration, or in a related area such as social and community sector, public administration, local government, or private real estate and property development. Applicants without work experience are also eligible if they have an appropriate degree such as Humanities, Social Science, Business, Architecture or Planning. For the Masters Degree, applicants should have either an undergraduate degree and a fourth year or have completed the Graduate Certificate at a satisfactory level of achievement.

Application procedure

Application forms are available from the Institute for Social Research

<table>
<thead>
<tr>
<th>Contact</th>
<th>Telephone: +61 3 9214 5566</th>
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</thead>
<tbody>
<tr>
<td>Email:</td>
<td><a href="mailto:isr@swin.edu.au">isr@swin.edu.au</a></td>
</tr>
<tr>
<td>Website:</td>
<td><a href="http://www.sisr.net/housing/housinghome.htm">www.sisr.net/housing/housinghome.htm</a></td>
</tr>
</tbody>
</table>

INTEGRATIVE MEDICINE

GSIM1 Graduate Certificate of Applied Science (Integrative Medicine)

GSIM2 Graduate Diploma of Applied Science (Integrative Medicine)

This program is designed to provide a general introduction to a number of different complementary therapies. All of the component subjects in the Graduate Certificate/Diploma can be taken as single subjects, or as a combination of single subjects. The completion of each subject accumulates credit towards a qualification.

Opportunities will be available for students to conduct research projects within a Masters course or at a PhD level. The selection of complementary therapy research will be based on intensive examination of the scientific evidence in each area in order to identify promising lines of inquiry. The guarantee of scientific validity of the Graduate School’s research comes from a commitment to rigorous scientific method at all times.

This course is available on campus, by Distance Education, or Online. The ‘on-campus’ program is described here: for further information on the Distance and Online program, refer to our website at www.swin.edu.au/gsim/online/

Email: isr@swin.edu.au
Website: www.sisr.net/housing/housinghome.htm

Campus

Hawthorn, Online, Distance Education/Learning.

Professional recognition

The Royal Australian College of General Practitioners (RACGP) has allocated CME points in the QA&CE Program for each subject in this course.

Course duration

While it is anticipated that the program will in most cases be self-paced, it is expected that the Graduate Certificate could be completed in one year part-time (50 credit points) and the Graduate Diploma could be completed in two years part-time (100 credit points).

Structure

All the component subjects in the Graduate Certificate/Diploma can be taken as single subjects, or as a combination of single subjects. Subjects run for either 4 weeks (10 credit points) or 8 weeks (20 credit points) with 5 contact hours per week. The completion of each subject accumulates credit towards a qualification. The Graduate Diploma requires the successful completion of the subjects listed below (100 credit points). Alternatively, students may choose to leave with a Graduate Certificate after the accumulation of 50 credit points.

Course subjects

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<th>Subject</th>
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<td>HIM101</td>
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<td>HIM102</td>
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<td>HIM202</td>
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<td>HIM203</td>
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<tr>
<td>HIM204</td>
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<tr>
<td>HIM205</td>
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</table>

Entry requirements

Applicants will normally have completed an undergraduate degree in medicine or an approved equivalent. Consideration may be given to applicants with other degrees in the health sciences if places are available.

Application procedure

Direct application to the School should be made on the relevant form available from the School Administrator.
Further information
Contact the Graduate School of Integrative Medicine
Telephone: +61 3 9214 5463
Email: gsim@swin.edu.au
Website: www.swin.edu.au/gsim/

NUTRITIONAL and ENVIRONMENTAL MEDICINE

GSIM3 Graduate Certificate of Applied Science (Nutritional and Environmental Medicine)

The emphasis of the course is on the principles and practical application of nutritional and environmental medicine to common clinical problems. Currently, very little clinical nutrition is taught within Australian medical schools. Opportunities will be available for students to conduct research projects within a masters course or at a PhD level. The selection of nutritional and environmental medicine research will be based on intensive examination of the scientific evidence in each area, in order to identify promising lines of inquiry. The guarantee of scientific validity of the Graduate School’s research comes from a commitment to rigorous scientific method at all times.

This course is available on campus, by Distance Education, or Online. The ‘on-campus’ program is described here: for further information on the Distance and Online program, refer to our website at www.swin.edu.au/gsim/online.htm.

Campus
Hawthorn, Online, Distance Education/Learning.

Professional recognition
The Royal Australian College of General Practitioners (RACGP) has allocated CME points in the OA&CE Program for each subject in this course.

Course duration
While it is anticipated that the programs will in most cases be self-paced, it is expected that the Graduate Certificate could be completed in one year part-time and the Graduate Diploma in two years part-time.

Structure
All the component subjects in the Graduate Diploma and Graduate Certificate can be taken as single subjects, or as a combination of single subjects. Subjects run for 4 weeks (10 credit points) with 5 contact hours per week. The completion of each subject accumulates credit towards a qualification. The Graduate Diploma requires the successful completion of the subjects listed below (100 credit points). Alternatively, students may choose to leave with a Graduate Certificate after the accumulation of 50 credit points.

Course subjects
- HNE101 Introduction to Nutritional and Environmental Medicine
- HNE102 Biology of Nutrients
- HNE203 Nutrient Therapy in Toxicology and Skin Problems
- HNE204 Environmental Medicine
- HNE205 Nutritional Approaches to Neurological and Degenerative Disorders and Ageing Problems
- HNE206 Nutritional Approaches to Cardiovascular and Respiratory Problems
- HNE207 Nutritional Approaches to Gastrointestinal Problems and Behavioural Problems
- HNE208 Nutritional Approaches to Women’s Health and Paediatric Problems
- HNE209 Nutritional Approaches to Men’s Health and Endocrine Problems
- HNE210 Nutritional Approaches to Musculoskeletal Problems and Sports Nutrition

GSIM4 Graduate Diploma of Applied Science (Nutritional and Environmental Medicine)

Entry requirements
Applicants will normally have completed an undergraduate degree in medicine or an approved equivalent. Consideration may be given to applicants with other degrees in the health sciences if places are available.

Application procedure
Direct application to the School should be made on the relevant form available from the School Administrator.

Further information
Contact the Graduate School of Integrative Medicine
Telephone: +61 3 9214 5463 or +61 3 9214 5296
Email: gsim@swin.edu.au
Website: www.swin.edu.au/gsim/

PSYCHOLOGY

L083 Graduate Diploma of Social Science (Psychological Studies)

The psychology program provides students with an introduction to psychology at three levels. At the first level, students are introduced to a range of topics in psychology and experimental design and analysis. At the second and third level, subjects follow up on some of these areas in more detail. At the third level, attention is also given to vocational skills and knowledge relevant to applied fields.

Aims & Objectives
- To provide an opportunity for students who have a degree in another discipline to study Psychology without having to do an entire second degree.
- To provide an opportunity for students to gain basic knowledge in Psychology and to apply this knowledge in their current profession.
- To open the possibility for students to change their career and become a Psychologist. This award is the first step along this path.

To enable students to learn about:
- Human behaviour and performance.
- How to formulate research questions, collect, analyse and interpret research data, and to write research reports.
- Psychology as a profession.

Campus
Lilydale

Career opportunities
The Psychology major, combined with appropriate subjects, can lead to career opportunities in a range of organisations to work as human resource managers, marketing and advertising personnel, information processing professionals, educational psychologists and research officers. Further studies in areas of professional psychology such as clinical, counselling, organisational, forensic, developmental, health, human factors and sports psychology can lead to a wide range of career opportunities.

Professional recognition
Accreditation with the Australian Psychological Society (APS) will be sought as soon as University accreditation has been achieved.

Course duration
Three years part-time.

Structure
The Graduate Diploma of Social Science (Psychological Studies) consists of eleven subjects each worth 12.5 credit points. The workload in each subject is expected to be approximately 160 hours of study. This includes 3-4 hours of formal classes per week (virtual or real) and all other learning activities (independent study, online, external research exercises).

Course subjects
- LSY500 Introduction to Psychology 1
- LSY501 Introduction to Psychology 2
Entry requirements
A degree (other than psychology) from a recognised tertiary institution, or approved equivalent.

Application procedure
Applications must be made direct to Swinburne Lilydale.

Further information
Contact Swinburne Lilydale +61 3 9215 7000

N0812 Postgraduate Diploma of Psychology
This course is designed for students who have completed a first degree with a three-year major sequence in psychology, in a course (or courses) approved by the Australian Psychological Society. The program is intended to complete students' foundation studies in psychology as a science and profession. The course is designed to prepare students to enter the profession by meeting the educational requirements for Associate Membership of the Australian Psychological Society.

The course ensures that all students develop basic competencies in research design and analysis, and an understanding of the ethical, legal and social responsibilities of psychologists engaged in social and applied research and professional practice. Students are also expected to acquire advanced knowledge in several areas of psychology. It is expected that students have basic competence in computer and keyboard skills, including familiarity with SPSS.

Students may explore topics of particular interest by choosing elective subjects.

Aims & Objectives
The course has the following objectives:

- To enable students to understand and apply psychological principles in practical settings.
- To enable students to acquire knowledge of social and behavioural science research design and analysis.
- To extend skills in formulating research problems, gathering and analysing data, interpreting and communicating research findings.
- To enable students to acquire advanced knowledge in selected topic areas within psychology and applied psychology, building upon and extending basic undergraduate preparation.
- To provide students with an understanding of the nature of psychology as a profession, the ethical, legal and social responsibilities of the psychologist, and the role of the Australian Psychological Society.
- To prepare students for entry level work as psychologists-in-training under supervision in occupational fields such as applied social research, the human services, and human resources.

Campus
Hawthorn

Career opportunities
Psychology Practice and related fields (Human Resources, Helping Services, Research).

Professional recognition
This course is recognised and accredited by the Australian Psychological Society as a fourth year of study in Psychology.

Course duration
One year full-time or two years part-time.
• Provide counselling help to individuals, groups, couples and families experiencing difficulties connected with relationships, education, careers, work, parenting, crises, and life-transitions.
• Evaluate and monitor the quality of helping services provided by a counselling services unit.
• Provide consulting help to individuals, organisations and community groups in relation to counselling matters.

Campus
Hawthorn

Career opportunities
Psychology Practice and related fields (Human Resources, Helping Professionals, Research).

Professional recognition
The course has been granted full accreditation as a fifth and sixth year course in psychology by the Australian Psychological Society. On successful completion of the course, students are eligible for registration as psychologists in Victoria, membership of the Australian Psychological Society and after appropriate supervised practice, full membership of the APS College of Counselling Psychologists.

Course duration
Four years part-time (evening program). In exceptional circumstances, applications from international students for 2 years full-time study may be considered.

Structure
Currently, there are three course components: coursework (50%), supervised placements (25%), and an empirical research project (25%).

Four of the coursework subjects comprise advanced study in areas central to the practice of counselling psychology:
• Aspects of Professional Practice
• Diagnosis, Treatment and Referral
• Psychology of the Family
• Counselling Applications

Four of the coursework subjects comprise professional skill development training:
• Human Services Research and Evaluation
• Psychological Assessment
• Counselling Theory and Skills
• Professional, Ethical and Legal Issues

There is also a coursework subject examining professional and ethical issues in Counselling Psychology Practice.

Students also participate in supervised work placements (HAY540, HAY541, HAY545) in at least three separate practice settings. Initially students are placed at the Centre for Psychological Services and following this choose two separate placements suitable in terms of their clientele and mode of service delivery.

Course subjects

Year 1

Semester 1
HAY530 Counselling Theory and Skills
HAY538 Psychological Assessment

Semester 2
HAY532 Human Services Research and Evaluation
HAY540 Counselling Placement A1

Year 2

Semester 1
HAY543 Professional, Ethical and Legal Issues
HAY549 Research Project (Counselling) A1

Semester 2
HAY537 Counselling Applications
HAY541 Counselling Placement A2

Year 3

Semester 1
HAY535 Diagnosis, Treatment and Referral
HAY551 Supervised Counselling Placement B1

Semester 2
HAY546 Research Project (Counselling) A2
HAY547 Psychology of the Family

Year 4

Semester 1
HAY545 Supervised Counselling Placement B2
HAY548 Research Project (Counselling) B1

Semester 2
HAY538 Aspects of Professional Practice
HAY550 Research Project (Counselling) B2

Entry requirements
A degree from a recognised tertiary institution (or approved equivalent) with a major in Psychology approved by the Australian Psychological Society and have completed a fourth year sequence of studies in psychology in a course or courses, also approved by the APS.

Applicants should also have experience in face-to-face counselling or have completed formal training in counselling skills (eg. Lifeline, Crisisline). Equivalent overseas qualifications will also be considered.

Application procedure
Application forms are available from the School of Social and Behavioural Sciences on +61 3 9214 5209 or email: sbsadmin@swin.edu.au.

Further information
Contact the School of Social and Behavioural Sciences
Telephone: +61 3 9214 5209
Email: sbsadmin@swin.edu.au
Website: www.swin.edu.au/sbs

N0905 Master of Psychology in Health Psychology

The Psychology Discipline offers a Master of Psychology in Health Psychology degree program by coursework, practicum and minor thesis. Health psychologists may engage in health research, health promotion, disease prevention, health care interventions, education, rehabilitation, and public health policy formulation. The program is designed to provide a broad range of professional skills which reflect the diversity of practice in health psychology. On successful completion of the course, students are eligible for registration as psychologists in Victoria, membership of the Australian Psychological Society, and after appropriate supervised practice, membership of the APS College of Health Psychologists.

Aims & Objectives
The objectives of the course are:
• To provide core professional skills relevant to practicing psychologists.
• To provide specialist knowledge in the field of health psychology.
• To provide practical experience in a variety of health-related settings.
• To consolidate research skills through the experience of conducting a research project.

Graduates of the course will be able to:
• Engage in counselling and rehabilitation of clients with health problems.
• Train and counsel health professionals.
• Develop and deliver health promotion and education programs.
• Evaluate health care programs.
• Contribute to the formulation of public health policy.
• Consult with government, community, and business organisations.
• Conduct health-related research.
Campus
Hawthorn

Career opportunities
Psychology Practice and related fields (Health Services, Helping Professionals, Research).

Professional recognition
On completion of this course students will be eligible for full registration of the Victorian Psychologists Registration Board. Students will also be eligible for full membership of the Australian Psychological Society and after appropriate supervised practice, full membership of the APS College of Health Psychologists.

Course duration
Four years part-time. In exceptional circumstances, applications from international students for 2 years full-time study may be considered.

Structure
The structure of the program follows the guidelines of the Australian Psychological Society. Currently, there are three course components: coursework (50%), placements (25%) and an empirical research project (25%).

Four of the coursework subjects comprise advanced study in areas central to the practice of health psychology:
- Foundations of Health Psychology.
- Culture, Gender and Health.
- Epidemiology for Health Psychologists.
- Public Health Policy.

Four of the coursework subjects comprise core skills for professional psychologists:
- Human Services Research and Evaluation.
- Counselling Theory and Skills.
- Psychological Assessment.
- Professional, Ethical and Legal Issues.

Students also engage in supervised health placements and complete a 10,000 word thesis.

Course subjects
Year 1
Semester 1
HAY530 Counselling Theory and Skills
HAY531 Foundations of Health Psychology
Semester 2
HAY532 Human Services Research and Evaluation
HAY533 Health Placement A1

Year 2
Semester 1
HAY543 Professional, Ethical and Legal Issues
HAY582 Research Project (Health) 1A
Semester 2
HAY536 Culture, Gender and Health
HAY534 Health Placement A2

Year 3
Semester 1
HAY539 Psychological Assessment
HAY583 Research Project (Health) 1B
Semester 2
HAY755 Epidemiology for Health Psychologists
HAY542 Supervised Health Placement B1

Year 4
Semester 1
HAY544 Supervised Health Placement B2

HAYS84 Research Project (Health) 2A
Semester 2
HAS501 Public Health Policy
HAYS85 Research Project (Health) 2B

Entry requirements
A degree from a recognised tertiary institution (or approved equivalent) with a major in Psychology approved by the Australian Psychological Society, or a four year sequence of studies in psychology in a course or courses also approved by the APS. Equivalent overseas qualifications will also be considered.

Application procedure
Applications should be made directly to the School of Social and Behavioural Sciences except in the case of international students. International students should contact the International Student Unit on +61 3 9214 8647 or Email: intl-admissions@swin.edu.au

Further information
Contact the School of Social and Behavioural Sciences
Telephone: +61 3 9214 5209
Email: sbsadmin@swin.edu.au.
Website: www.swin.edu.au/sbs

N008 Professional Doctorate of Psychology (Counselling Psychology)

This is a higher degree by research, incorporating coursework and professional placement components, completed over four years of full-time or eight years of part-time study. The course gives candidates the opportunity to develop professional and research skills in Counselling Psychology. The major component of the program (70%) involves a substantial research project, and reporting this research in the form of a thesis. Normally the thesis is 40,000-60,000 words in length, not including appendices and references. A research topic must be mutually agreed upon by the candidate and a member of staff in the psychology discipline who is qualified to supervise the research. There will normally be an intake of up to five new entrants each year. The School may vary the frequency of intake and the number of new entrants depending on the availability of staff to provide suitable research supervision.

Campus
Hawthorn

Career opportunities
Opportunities exist for careers in counselling psychology in hospitals, community welfare organisations, research organisations, and private practice.

Professional recognition
The DPsych (Counselling Psychology) has been granted full accreditation as a fifth and sixth year course in psychology by the Australian Psychological Society (APS). The DPsych (Counselling Psychology) is approved by the APS College of Counselling Psychologists.

Course duration
Four years full-time or eight years part-time.

Structure
Candidates undertaking the DPsych (Counselling Psychology) program will complete the coursework components of the Master of Psychology in Counselling Psychology course at an advanced level in addition to 1500 hours of placement and their major thesis. Graduates will be highly skilled in research and professional practice in the area of counselling psychology.

Course subjects (Full-time Program)
Year 1
Semester 1
HAY630 Counselling Theory and Skills
HAY639 Psychological Assessment
HAY648 Research Project (Counselling) A
## Course subjects

### Year 1

**Semester 1**
- HAY630 Counselling Theory and Skills
- HAY657 Research Project (Counselling) A1

**Semester 2**
- HAY632 Human Services Research and Evaluation
- HAY658 Research Project (Counselling) A2

### Year 2

**Semester 1**
- HAY639 Psychological Assessment
- HAY659 Research Project (Counselling) B1

**Semester 2**
- HAY640 Counselling Placement A1
- HAY660 Research Project (Counselling) B2

### Year 3

**Semester 1**
- HAY643 Professional, Ethical and Legal Issues
- HAY661 Research Project (Counselling) C1

**Semester 2**
- HAY641 Counselling Placement A2
- HAY662 Research Project (Counselling) C2

### Year 4

**Semester 1**
- HAY635 Diagnosis, Treatment and Referral
- HAY663 Research Project (Counselling) D1

**Semester 2**
- HAY637 Counselling Applications

### Year 5

**Semester 1**
- HAY646 Supervised Counselling Placement B1
- HAY665 Research Project (Counselling) E1

**Semester 2**
- HAY647 Psychology of the Family
- HAY666 Research Project (Counselling) E2

### Year 6

**Semester 1**
- HAY667 Research Project (Counselling) F1

**Semester 2**
- HAY645 Supervised Counselling Placement B2
- HAY668 Research Project (Counselling) F2

### Year 7

**Semester 1**
- HAY669 Research Project (Counselling) G1

**Semester 2**
- HAY638 Aspects of Professional Practice
- HAY670 Research Project (Counselling) G2

### Year 8

**Semester 1**
- HAY671 Research Project (Counselling) H1

**Semester 2**
- HAY672 Research Project (Counselling) H2

Note: Subject availability may vary slightly from year to year due to timetabling constraints.

### Entry requirements

Applicants must hold a first or upper second class honours degree in psychology from a recognised Australian university or hold qualifications deemed equivalent by the University's Higher Degree Committee and be eligible for Associate Membership of the Australian Psychological Society. Professional experience and research skills will be considered in the selection process.

### Application procedure

Applications should be made directly to the School of Social and Behavioural Sciences on +61 3 9214 5209 or email: sbsadmin@swin.edu.au.

International student applications should be directed to the International Student Unit on +61 3 9214 8647 or email: intl-admissions@swin.edu.au.

### Further information

Contact the School of Social and Behavioural Science

Telephone: +61 3 9214 5209

Email: sbsadmin@swin.edu.au, or

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### N009 Professional Doctorate of Psychology (Health Psychology)

This is a higher degree by research, incorporating coursework and professional placement components, taken over four years full-time or eight years part-time study. The course gives candidates the opportunity to develop professional and research skills in Health Psychology. The major component of the program (70%) involves the student undertaking a substantial research project, and reporting this research in the form of a thesis. Normally the thesis is 40,000-60,000 words in length, not including appendices and references. A research topic must be mutually agreed upon by the candidate and a member of staff in the psychology discipline who is qualified to supervise the research. There will normally be an intake of up to five new entrants each year. The School may vary the frequency of intake and the number of new entrants depending on the availability of staff to provide suitable research supervision.
## Career opportunities
Opportunities exist for careers in health psychology in hospitals, community welfare organisations, research organisations and private practice.

## Professional recognition
The DPsych (Health Psychology) has been granted full accreditation as a fifth and sixth year course in psychology by the Australian Psychological Society (APS). The DPsych (Health Psychology) is approved by the APS College of Health Psychologists.

## Course duration
Four years full-time or eight years part-time.

## Structure
Candidates undertaking the DPsych (Health Psychology) program will complete the coursework components of the Master of Psychology in Health Psychology course at an advanced level, in addition to 1500 hours of placement and their major thesis. Graduates will be highly skilled in research and professional practice in the area of health psychology.

### Course subjects (Full-time Structure)

#### Year 1

| Semester 1 | | Semester 2 | |
|------------|-----------------|-------------|-----------------|-----------------|
| HAY630 | Counselling Theory and Skills | HAY632 | Human Services Research and Evaluation |
| HAY631 | Foundations of Health Psychology | HAY682 | Research Project (Health) 1A |
| HAY674 | Research Project (Health) 1 |

#### Year 2

| Semester 1 | | Semester 2 | |
|------------|-----------------|-------------|-----------------|-----------------|
| HAY632 | Human Services Research and Evaluation | HAY633 | Health Placement A1 |
| HAY633 | Health Placement A1 | HAY684 | Research Project (Health) 2A |
| HAY675 | Research Project (Health) 2 |

#### Year 3

| Semester 1 | | Semester 2 | |
|------------|-----------------|-------------|-----------------|-----------------|
| HAY639 | Psychological Assessment | HAY634 | Health Placement A2 |
| HAY643 | Professional, Ethical and Legal Issues | HAY685 | Research Project (Health) 2B |
| HAY676 | Research Project (Health) 3 |

#### Year 4

| Semester 1 | | Semester 2 | |
|------------|-----------------|-------------|-----------------|-----------------|
| HAY695 | Supervised Health Placement B1 | HAY686 | Supervised Health Placement B2 |
| HAY677 | Research Project (Health) 4 | HAY688 | Research Project (Health) 5A |

#### Year 5

| Semester 1 | | Semester 2 | |
|------------|-----------------|-------------|-----------------|-----------------|
| HAY689 | Research Project (Health) 5B | HAY690 | Research Project (Health) 6 |

#### Year 6

| Semester 1 | | Semester 2 | |
|------------|-----------------|-------------|-----------------|-----------------|
| HAY691 | Research Project (Health) 7A | HAY692 | Research Project (Health) 8A |

#### Year 7

| Semester 1 | | Semester 2 | |
|------------|-----------------|-------------|-----------------|-----------------|
| HAY693 | Research Project (Health) 7B | HAY694 | Research Project (Health) 8B |

Note: Subject availability may vary slightly from year to year due to timetable constraints.

### Course subjects (Part-time Structure)

#### Year 1

| Semester 1 | | Semester 2 | |
|------------|-----------------|-------------|-----------------|-----------------|
| HAY630 | Counselling Theory and Skills | |

## Entry requirements
Applicants must hold a first or upper second class honours degree in psychology from a recognised Australian university (or hold qualifications deemed equivalent by the University’s Higher Degree Committee) and be eligible for Associate Membership of the Australian Psychological Society. Professional experience and research skills will be considered in the selection process.
Application procedure
Applications should be made directly to the School of Social and Behavioural Sciences on +61 3 9214 5209 or email: sbsadmin@swin.edu.au.
International student applications should be directed to the International Student Unit on +61 3 9214 8847 or email: intl-admissions@swin.edu.au.

Further information
Contact the School of Social and Behavioural Science
Telephone: +61 3 9214 5209
Email: sbsadmin@swin.edu.au, or

HIGHER DEGREES BY RESEARCH

BSE11 Doctor of Philosophy  
(Biomedical Instrumentation)

Research for the Doctor of Philosophy (Biomedical Instrumentation) is concentrated in the Centre for Biomedical Instrumentation, which provides a focus for research and consulting activities related to instrumentation for medical and physiological use.

Campus
Hawthorn

Course duration
Two years full-time or equivalent part-time.

Structure
Students generally undertake their formal and supervised research training over a period of two years full-time or four years part-time. Research can be undertaken at Swinburne, or an approved external organisation. A major thesis is the sole form of assessment for this award.

Entry requirements
Students holding a bachelors degree with honours, or other qualifications deemed equivalent, are eligible for admission.

Application procedure
Applications should be directed to the School of Biophysical Sciences and Electrical Engineering.

Further information
Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: www.swin.edu.au/bioscieleceng

Z002 Doctor of Philosophy  
(Brain Sciences)

Graduates who hold a Bachelor degree and who have shown a high standard of academic achievement in that course may be admitted to candidature for the degree of Doctor of Philosophy. The higher degree programs currently available require the presentation of a major thesis based on original research, investigation or development work, carried out either within Swinburne or externally, providing that adequate facilities and supervision can be arranged. External work can be carried out in the approved industrial, governmental, educational or research organisation.

The Statute for the degree of Doctor of Philosophy sets out the regulations governing this qualification. See website at: www.swin.edu.au/sgns/regs/phdpolicy.htm

The Institute is engaged in research to understand the relationship between cognitive processes and affective states, and the rhythms of electrical activity in the human brain.

Areas of research include:
- Brain rhythmic activity
- Functional brain imaging

Aims & Objectives
The PhD degree provides training and education with the objective of producing graduates with the capacity to conduct research independently at a high level of originality and quality. The student ought to be capable by the end of his/her candidature of independently conceiving, designing and carrying to completion a research program. The PhD candidate should uncover new knowledge either by the discovery of new facts, the formulation of theories or the innovative re-interpretation of known data and established ideas.

Campus
Hawthorn

Career opportunities
In the fields of neuroscience, psychology and biomedical instrumentation.

Course duration
The expected normal duration of candidature is 3.5 years full-time or 6 years part-time.

Structure
Candidates undertake their research program at the Brain Sciences Institute or other recognised institution. Candidates are expected to demonstrate satisfactory progress on an annual basis. To be assessed for a Doctor of Philosophy, candidates must present a major thesis based on original research, investigation or development work carried out under Swinburne staff supervision either at Swinburne or externally.

Entry requirements
Applicants should have a Bachelor's degree with honours (1st or 2nd class) or the equivalent in a discipline appropriate to the proposed area of study. The level of academic achievement in prior studies should be of a very high standard. Other relevant activities, including work experience, may be taken into account in assessing applications.

Application procedure
Applicants should initially contact the Administrative Officer at the Brain Sciences Institute on +61 3 9214 8822 to make an appointment with the Director, Professor Richard Silberstein to discuss their proposed research program.

Application forms can then be obtained from the Administrative Officer at the Brain Sciences Institute or by downloading from the website at: www.scan.swin.edu.au

Application forms must be supported by a certified academic transcript and the names and contact details of two academic referees familiar with the applicants previous work.

Further information
Contact the Brain Sciences Institute
Telephone: +61 3 9214 8822
Fax: +61 3 9214 5525
Email: bsi@bsi.swin.edu.au
Website: http://www.scan.swin.edu.au

Z200 Master of Applied Science  
(Brain Sciences)

The Brain Sciences Institute offers the degree of Master (by research and thesis) on a full-time or part-time basis. The Statute for the degree of Master (by research and thesis) sets out the regulations governing this qualification. See website at: www.swin.edu.au/research/welcome.htm under Research Policy.

The Institute is engaged in research to understand the relationship between cognitive processes and affective states, and the rhythms of electrical activity in the human brain.
 Areas of research include:
- Brain rhythmic activity
- Functional brain imaging
- Working memory
- Attention
- Intelligence
- Psychopharmacology
- Attention deficit hyperactivity disorder
- Schizophrenia

**Aims & Objectives**
The Masters by Research degree generally has the objective of training students in research methodology and techniques and in their critical evaluation, appropriate to their field of study, and in the application of such methodology by conducting a specified program of research under appropriate supervision. In addition, this degree requires training in analysing the literature and debate in the substantive area of the thesis topic at an advanced level.

**Campus**
Hawthorn

**Career opportunities**
In the fields of neuroscience, psychology or biomedical instrumentation.

**Course duration**
Two years full-time or equivalent part-time.

**Structure**
Candidates undertake their research program at the Brain Sciences Institute or other recognised institution. Candidates are expected to demonstrate satisfactory progress on an annual basis. To be assessed for a Master of Applied Science, candidates must present a major thesis based on original research, investigation or development work carried out under Swinburne staff supervision either at Swinburne or externally.

**Entry requirements**
Applicants should have at least a Bachelor’s degree or the equivalent in a discipline appropriate to the proposed area of study. The level of academic achievement in prior studies must be of a high standard. Other relevant activities including work experience will be taken into account in assessing applications.

**Application procedure**
Applications should be directed to the School of Biophysical Sciences and Electrical Engineering. Applications should be directed to the School of Biophysical Sciences and Electrical Engineering.

**Further information**
Contact the School of Biophysical Sciences and Electrical Engineering.

**MULTIMEDIA**

**J076 Graduate Certificate of Multimedia**

**J086 Graduate Diploma of Multimedia**

**J096 Master of Multimedia**

This course is intended for graduates seeking to utilise the potential of multimedia to enhance their professional skills especially those in the teaching, training or media professions, or those wishing to pursue a career in the exciting and dynamic multimedia industry for example multimedia author, website developer, or eCommerce.

**Campus**
Hawthorn

**Career opportunities**
Web site developer/programmer, multimedia producer/developer/programmer, 2D/3D animator (special effects), multimedia network administrator.

**Course duration**
Graduate Certificate: One semester full-time or equivalent part-time.
Graduate Diploma: Two semesters full-time or equivalent part-time.
Masters: Three semesters full-time or equivalent part-time.

Swinburne operates on a three semester year (including a summer semester), making it possible to complete the Master of Multimedia degree in 14 months.

**Structure**
This course will operate under a student workload model based on 50 credit points for a full-time semester. One credit point is deemed to be equivalent to one hour of student work per week over a semester, whether in contact with staff, operating in flexible delivery mode or in private study. The typical student’s average weekly workload during semester is therefore deemed to be fifty hours.

The Master of Multimedia incorporates the Graduate Certificate and Graduate Diploma of Multimedia. On successful completion of each level, students may exit with a Graduate Certificate or Graduate Diploma in Multimedia or progress to the next level.

**Course subjects**

**Stage 1 (Graduate Certificate)**

- HET730 Multimedia Practice
- HET731 Multimedia Theory
Stage 2 (Graduate Diploma)
Choose 4 of the following:

- HBM522 Customer Relationship Management
- HBM523 eMarketing
- HET732 Multimedia Development
- HET733 Computer Based Learning
- HET734 Information Architecture & Strategy
- HET723 Internet & WWW
- HET728 3D Animation and Special Effects
- HTS051 Software Development 1
- HET06 Networks and Routing
- HT7084 eCommerce: A Business Perspective
- HMDT501 Multimedia Design Technology 1

Stage 3 (Master)
Students are required to undertake one (1) of the following options:

Option A
- HET711 Major Multimedia Project (50 Credit Points)

Option B
- HET709 Minor Multimedia Project (25 Credit Points)
  Plus 2 Elective Subjects (see list below)

Option C
- 4 Elective Subjects (see list below)

Elective Subjects
All subjects are 12.5 credit points unless otherwise specified.

Media
- HAM410 Electronic Writing
- HAM512 Writing for the Media (25 credit points)
- HAM411 Globalisation: Media and Telecommunications
- HAM517 Cultural Convergence (25 credit points)

Design
- HMDT501 Multimedia Design Technology 1
- HMDT502 Multimedia Design Technology 2

Multimedia & Internet
- HET723 Internet & WWW
- HET732 Multimedia Development
- HET728 3D Animation and Special Effects
- HET733 Computer Based Learning
- HET734 Information Architecture and Strategy

Network Technology
- HET706 Networks and Routing
- HET708 Internetworking Technologies
- HET710 Network Administration

Multimedia Software
- HTS051 Software Development 1
- HTS052 Software Development 2
- HTB016 Database 1
- HTB023 Human-Computer Interaction
- HTB003 Unix Systems Programming

Business
- HDM501 The Entrepreneurial Organisation
- HDM503 Financial Data and Decision Making
- HBM521 Project Management
- HBM522 Customer Relationship Management
- HBM523 eMarketing

Note: not all of the above subjects will be conducted every semester. Electives will usually be offered subject to satisfactory enrolment numbers. Students should contact the School Administration Office to obtain further information about subject offerings.

Entry requirements
A qualification from a recognised tertiary institution or approved equivalent.

Application procedure
Direct to the School of Biophysical Sciences and Electrical Engineering. Application forms are also available at: www.swin.edu.au/hed/pe/

Further information
Contact the School of Biophysical Sciences and Electrical Engineering
Telephone: +61 3 9214 8859
Fax: +61 3 9819 0856
Email: bsee@swin.edu.au
Website: www.swin.edu.au/multimedia

SOCIAL SCIENCES and ARTS

APPLIED MEDIA

NO70  Graduate Certificate of Arts (Applied Media)
NO804 Graduate Diploma of Arts (Applied Media)

The Graduate Certificate and Graduate Diploma in Applied Media are designed to provide both a theoretical base and a portfolio of skills applicable to a wide range of media activities. It is aimed at both developing the skills of people interested in working in media related industries and enhancing the expertise of people already working in the media.

Aims & Objectives
- To provide knowledge of and experience in the production of a range of traditional and new media.
- To provide experience in the presentation and marketing of media production.
- To introduce students to the changing face of media culture and the new technologies of electronic media.
- To equip students with the skills to develop a substantial media production.

Campus
Hawthorn

Career opportunities
The Graduate Certificate and Graduate Diploma in Applied Media provide a broad range of writing and production skills valued in many sectors of the print, broadcasting and electronic media, such as radio production, journalism and information technology. Graduates will be equipped with the kind of digital technology skills likely to be sought after by software developers working in the multi-media industry.

Course duration
Graduate Certificate: One year (two semesters) part-time.
Graduate Diploma: One year full-time or equivalent part-time.

Structure
Graduate Certificate: Students must satisfactorily complete three subjects: one of two core subjects and two elective subjects from the list below. The core subject involves two hours per fortnight over two semesters. Each elective subject involves three hours of course-work per week per semester.
Graduate Diploma: Students must satisfactorily complete six subjects: both core subjects and four elective subjects. The two core subjects involve two hours per fortnight over two semesters. Each elective subject involves three hours of coursework per week per semester.

Apart from formal class time, candidates are expected to spend a minimum of the equivalent class contact hours per week in private study and/or team project work. Both core units and most elective units are offered in the evening from 6:00pm-9:00 pm.
COMMERCIAL RADIO

N061 Graduate Diploma of Arts (Commercial Radio)

This course is designed for people who wish to pursue a career in commercial radio broadcasting. Students receive two semesters of intensive tuition in all aspects of commercial radio operations, with practical training in announcing and news presentation. Other areas covered include voice training, production, copywriting, news writing and presentation, sales and marketing, promotions, music and programming, radio station management and computing skills. Broader issues are introduced including broadcast ethics and codes of practice, media law and ownership, the impact of information technologies and audience research. There is a strong focus on digital audio processing and control systems, using extensive computing facilities in studios and production areas.

An industry placement program places students into regional commercial radio stations for several weeks during the course. This placement is designed to allow participants to experience first-hand the environment and operating style of commercial radio, gain feedback on their skills and to make personal contacts within the industry. Training is conducted in Swinburne's modern, fully-equipped radio centre and computer laboratories, with personal access time available to all students.

Campus
Hawthorn

Career opportunities
The Graduate Diploma of Arts in Commercial Radio (formerly titled the Certificate in Commercial Radio) has been operating successfully since 1989, with nearly 90% of graduates securing positions in Commercial Radio stations across Australia as announcers, journalists, creative writers, promotion assistants and sales executives. Every assistance is provided to place graduates in the workforce. No guarantees of employment can be given, however the skills gained and the contacts made during the course should place participants in an excellent position to secure employment in the Commercial Radio industry. The Federation of Australian Radio Broadcasters (FARB) offers every possible assistance with placement to graduates.

Professional recognition
The Graduate Diploma in Commercial Radio has the full support of the Federation of Australian Radio Broadcasters (FARB) and the industry is actively involved in lectures, seminars and workshops.

Course duration
One year (2 Semesters) full-time commencing in February.

Structure
Students undertake eight subjects over two semesters.

Course subjects
HAM441 Radio in Australia
HAM442 Radio Presentation
HAM443 Radio Journalism
HAM444 Radio Marketing and Promotions
HAM445 Radio Advertising Copywriting
HAM446 Radio Production
HAM447 Radio Broadcasting Practice
HAM448 Radio Industry Placement

Entry requirements
Applicants are expected to have satisfactorily completed their VCE and graduates of universities and colleges are also encouraged to apply. Special entry is available to applicants who have not completed an undergraduate degree but have substantial experience in radio or related media industries. The minimum age for applicants is 18 years, although applicants younger than this with special abilities may be considered. The personal qualities sought in applicants are a clear intention and desire to make Commercial Radio a career, an ability to communicate effectively and an ability to work co-operatively in a group. A clear speaking voice is essential. Writing skills and an appreciation of language, together with creative ideas and a knowledge of current affairs, would provide an ideal background for participants.

Experience in a radio station, whether commercial, community or school-based, would provide evidence of a desire for a radio career. An understanding of the broadcast industry would be an advantage.

Application procedure
Applications are invited from residents of all States and Territories of Australia. Application forms are available from the School Office or via email at: sbsadmin@swin.edu.au.

Applications open in September and close in early November each year. Each intake has fourteen places available.

Further information
Contact the School of Social and Behavioural Sciences
Telephone: +61 3 9214 5209
Email: sbsadmin@swin.edu.au
Website: www.swin.edu.au/radio
Theoretical and conceptual approaches to fields of debate in communication studies and the enhancement of practical skills.

- Exploration of subjects, research and production approaches highly relevant to contemporary society.
- Flexibility in terms of choice across streams of media and telecommunications policy analysis, cultural theory and textual analysis, production, writing and journalism, new communications technology and marketing.
- A breadth of expertise which students can utilise in applied field work, for themselves, or with an employer.
- Good opportunities for close liaison with industry personnel, including course presentations by industry specialists and industry based research.

**Campus**
Hawthorn

**Career opportunities**
Graduates find employment in media, information technology and telecommunications companies, as well as policy, advertising and education.

**Course duration**
One and a half years full-time or three years part-time.

**Structure**
The Masters degree consists of four subjects including two compulsory core subjects, plus a minor thesis. Each subject involves three hours of coursework per week for one semester. A minor thesis of 20,000 words or equivalent is to be undertaken concurrently.

**Course subjects**

<table>
<thead>
<tr>
<th>Core subjects</th>
<th>Course number</th>
<th>Subject Name</th>
<th>Requirements</th>
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<td>Globalisation: Media and Telecommunications</td>
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<tr>
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<tr>
<td>HAM507</td>
<td>Thesis (Full-time students)</td>
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</table>

**Entry requirements**
Applicants should hold a fourth year or equivalent degree from a recognised tertiary institution or approved equivalent, or have equivalent industry experience.

**Application procedure**
Applications should be made directly to the School of Social and Behavioural Sciences. International students should contact the International Student Unit on +61 3 9214 8647 or via Email: intl-admissions@swin.edu.au

**Further information**
Contact the School of Social and Behavioural Sciences
Telephone: +61 3 9214 5209
Email: sbsadmin@swin.edu.au
Website: www.swin.edu.au/sbs

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**HIGHER DEGREES BY RESEARCH**

**N001 Doctor of Philosophy (Arts)**
The School offers the degree of Doctor of Philosophy on a full-time or part-time basis. A candidate may be required to undertake preliminary coursework as part of the candidature. The Policy for the degree of Doctor of Philosophy sets out the regulations governing this qualification. Prospective candidates should access the website: www.swin.edu.au/research or contact the Higher Degrees and Scholarship Manager on (03) 9214 5224 for copies of the policy for the degree of Doctor of Philosophy and the degree of Master (by research).

**Scholarships Research Training Scheme**
Higher degree students will normally receive a HECS exemption place under the Research Training Scheme.

Australian Postgraduate Award The Australian Research Council (ARC) offers 900 Australian Postgraduate Awards (APAs) per year to postgraduate researchers of exceptional promise. Equivalent Swinburne funded scholarships are also available: these are known as Swinburne University Postgraduate Research Awards.

**Campus**
Hawthorn

**Entry requirements**
Applicants should have a 1st class or upper 2nd class honours degree or equivalent in a discipline appropriate to the proposed area of study. The level of academic achievement in prior studies should be of a very high standard. Other relevant activities, including work experience, will be taken into account in assessing applications.

**Application procedure**
Intending applicants should approach the Head of the relevant discipline or the School Research Coordinator to identify staff who may be appropriate and available to supervise the proposed project. Information about staff research expertise is available on the School website: www.swin.edu.au/sbs. An application can proceed only if a staff member with suitable expertise is available and willing to supervise the project.

Candidature application forms are available at www.swin.edu.au/research/postgrad.htm

Applications, signed by the applicant, the coordinating supervisor and second supervisor are submitted to the School of Social and Behavioural Sciences Research and Postgraduate Studies Committee (secretariat in BA307). Applications accepted by this committee are then forwarded to the Higher Degrees Committee for approval.

Applicants should note that one to two months should be allowed for a successful application to be evaluated.

Additionally, applicants wishing to apply for a postgraduate research scholarship must submit their application to the University by the end of October. The website address is: www.swin.edu.au/research/schols.htm.

**Further information**
Contact the School of Social and Behavioural Sciences
Telephone: +61 3 9214 5209
Email: sbsadmin@swin.edu.au

**N090 Master of Arts (by research)**
The School of Social and Behavioural Sciences offers the degree of Master of Arts (by research). The Policy for the degree of Master (by research) sets out the regulations governing this qualification. See website: www.swin.edu.au/research/postgrad.htm.

Scholarships Research Training Scheme - Full-time higher degree students will normally receive a HECS exemption place under the Research Training Scheme. The Australian Research Council (ARC) offers 900 Australian Postgraduate Awards (APAs) per year to postgraduate researchers of exceptional promise. Equivalent Swinburne funded scholarships are also available: these are known as Swinburne University Postgraduate Research Awards.

**Campus**
Hawthorn
Entry requirements
Applicants should have a Bachelor of Arts (Honours) degree or the equivalent of four years of undergraduate study in a discipline appropriate to the proposed area of study. The level of academic achievement in prior studies must be of a high standard. Other relevant experience, including work experience, will be taken into account in assessing applications.

Application procedure
Intending applicants should approach the Head of the relevant discipline or the School Research Coordinator to identify staff who may be appropriate and available to supervise the proposed project. Information about staff research expertise is available on the School website: www.swin.edu.au/sbs. An application can proceed only if a staff member with suitable expertise is available and willing to supervise the project.

Candidate application forms are available at www.swin.edu.au/research/postgrad.htm

Applications, signed by the applicant, the co-ordinating supervisor and second supervisor are submitted to the School of Social and Behavioural Sciences Research and Postgraduate Studies Committee (secretariat in BA307). Applications accepted by this committee are then forwarded to the Higher Degrees Committee for approval.

Applicants should note that one to two months should be allowed for a successful application to be evaluated. Additionally, applicants wishing to apply for a postgraduate research scholarship must submit their application to the University by the end of October. Please refer to the Swinburne website: www.swin.edu.au/research.

Further information
Contact the Higher Degrees and Scholarship Manager on +61 3 9214 5224
Website: www.swin.edu.au/research
HAA181 Italy and Its Language 1

12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture and tutorial • Assessment: Two Class Tests: Aural Comprehension Test, Civilisation Test, Final Language Examination, Attendance. A subject in the Bachelor of Business/Bachelor of Arts (Italian), Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
This subject is a practical introduction to the Italian language and culture for beginners. The course will enable students to develop the ability to use basic Italian effectively, by developing proficiency in the following language skills: understanding spoken and written Italian, speaking and writing Italian. It will also enable students to acquire an insight into the culture and civilization of Italy and the Italian way of life.

Content
The language program is based around the text Ci Siamo, a language learning course which develops oral and aural skills. The culture component will familiarise students with a general knowledge of facts about Italy and provide them with an understanding and an appreciation of the Italian way of life.

References

HAA182 Italy and Its Language 2

12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: HAA181 or approved equivalent • Teaching methods: Lecture and tutorial • Assessment: Two class tests, Oral Test, Culture Test, Final Language Examination and Attendance. A subject in the Bachelor of Business/Bachelor of Arts (Italian), Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
The subject extends the work carried out in HAA181. The program is designed to enhance the students’ communicative competence in Italian and reach a level where they are proficient to deal with a wide variety of everyday situations. The course also provides an historical perspective of the society and culture of modern Italy.

Content
The program is based on the text Ci Siamo, a language learning course which develops oral and aural skills and is structured to suit different learning needs. The aim of the culture component is to familiarise students with a general knowledge of Italian history and provide them with an understanding and an appreciation of Italian culture.

Textbook

References

HAA184 Advanced Italian 1A

12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: VCE Italian or equivalent • Teaching methods: Lecture and tutorial • Assessment: Two class tests, Literature Essay, Civilisation Test, Final Language Examination, Attendance and class contribution. A subject in the Bachelor of Business/Bachelor of Arts (Italian), Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
This subject builds on the skills which students already possess to develop their proficiency from VCE studies in the speaking, understanding and writing of standard Italian. It will also enable students to acquire an insight into the culture and civilization of Italy and the Italian way of life. The study of short stories aims to enable students to become familiar with the thoughts and styles of different authors through which one acquires a better understanding of modern Italy.

Content
The program is based on the text selected for the course. The course reinforces fundamental Italian grammar structures, provides review exercises that combine and provide them with an understanding and an appreciation of the Italian way of life. The literature program is a selection of modern short stories from the text Incontî Attivâl.

Textbook
Aims & Objectives

The subject aims to further students’ linguistic competence in the areas of pronunciation, morphology and syntax, vocabulary and idiom. The understanding of long and complex verbal structures is emphasized, together with the acquisition of a wider vocabulary range. The study of short stories aims to enable students to become familiar with the thoughts and styles of different authors through which one acquires a better understanding of modern Italy.

Content

The program is based on the second part of the text Prego, An Invitation to Italian. The literature program is a selection of modern short stories from the text Incontri Attuali. The subject aims to further students’ linguistic competence in the areas of pronunciation, morphology and syntax, vocabulary and idiom. The understanding of long and complex verbal structures is emphasized, together with the acquisition of a wider vocabulary range. The study of short stories aims to enable students to become familiar with the thoughts and styles of different authors through which one acquires a better understanding of modern Italy.

HAA281

Italian 2X

Aims & Objectives

This subject builds on the skills which students gained in first year to develop their proficiency in the speaking, understanding and writing of standard Italian.

Content

The program is based on the text Prego, An Invitation to Italian. The course reinforces all fundamental Italian grammar structures, provides review exercises that combine and reinforce structures and vocabulary and encourages students to interact with each other, sharing opinions about today’s Italy. The literature program is a selection of modern short stories from the text Incontri Attuali.

References


HAA282

Introductory Business Italian 2Y

Aims & Objectives

The subject aims to provide students with an awareness of the context in which Italian business operates, and a basic proficiency in the linguistic register and conventions required for operating in the Italian business and trade environments.

Content

The subject provides background information on the Italian economy and its role within the European Union. The language tutorials develop the appropriate language required in basic Italian business communications.

References


HAA283

Italian 2Z

Aims & Objectives

The subject aims to consolidate and deepen students’ proficiency through advanced grammatical exercises and to augment their active and passive vocabulary through conversation and the study of texts in various registers.

Content

The subject aims to consolidate and deepen students’ proficiency through advanced grammatical exercises. The students’ active and passive vocabulary and grammatical structures are augmented by means of authentic materials in different linguistic registers and in different forms.

Textbook


HAA284

Advanced Italian 2A

Aims & Objectives

The subject aims to further students’ linguistic competence in the areas of pronunciation, morphology and syntax, vocabulary and idiom. The understanding of long and complex verbal structures is emphasized, together with the acquisition of a wider vocabulary range. The study of short stories aims to enable students to become familiar with the thoughts and styles of different authors through which one acquires a better understanding of modern Italy.

Content

The program is based on the second part of the text Prego, An Invitation to Italian. The literature program is a selection of modern short stories from the text Incontri Attuali. The subject aims to further students’ linguistic competence in the areas of pronunciation, morphology and syntax, vocabulary and idiom. The understanding of long and complex verbal structures is emphasized, together with the acquisition of a wider vocabulary range. The study of short stories aims to enable students to become familiar with the thoughts and styles of different authors through which one acquires a better understanding of modern Italy.

HAA285

Introductory Business Italian 2B

Aims & Objectives

The subject aims to provide students with an awareness of the context in which Italian business operates and also provide them with basic proficiency in the linguistic register and conventions required for operating in the Italian business and trade environments.

Content

The subject provides background information on the Italian economy and its role within the European Union. The language tutorials develop the appropriate language required in Italian business communications.

References


HAA286

Advanced Italian 2C

Aims & Objectives

The subject aims to provide students with an awareness of the context in which Italian business operates and also provide them with basic proficiency in the linguistic register and conventions required for operating in the Italian business and trade environments.

Content

The subject provides background information on the Italian economy and its role within the European Union. The language tutorials develop the appropriate language required in Italian business communications.

References

Aims & Objectives
The subject aims to consolidate and deepen students’ proficiency through advanced grammatical exercises, authentic texts, films and television programs in Italian. The students’ active and passive vocabulary is augmented by exposing them to authentic materials from different periods, in different linguistic registers and in different forms.

Content
The subject consists of grammar revision, conversation and language extension work emphasizing a variety of linguistic registers and sectoral languages.

Reference

HAA377 International Business in the Italian Context
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil.

Aims & Objectives
The main aim of this subject is to familiarise students with the contemporary Italian business environment by analysing the structure of the Italian economy and Italy’s place within the European Union, the international business environment and the structure of the Italian economy.

Content
The course will include elements of Italian politics, financial, cultural and economic structures and environment and will give students the essential skills and confidence to do business with Italian entities in Italy, in the European Union and in Australia.

References

HAA381 Italian 3X
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAA283 • Teaching methods: Lecture and tutorial • Assessment: Class test, Language Extension work, Final Examination.

A subject in the Bachelor of Business/Bachelor of Arts (Italian), Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
The subject aims to consolidate and deepen students’ proficiency through advanced grammatical exercises and authentic texts in Italian. The students’ active and passive vocabulary is augmented by exposing them to authentic materials from different periods in different linguistic registers and in different forms.

Content
The course consists of grammar revision, conversation and language extension work emphasising a variety of linguistic registers and sectoral languages.

Textbook

HAA384 Individual Project
12.5 Credit Points • 1 Semester • 2 Hours per Week on pre-arranged weeks • Hawthorn • Prerequisite: HAA283 or HAA286 • Teaching methods: Regular report to subject convenor • Assessment: Project, Oral Presentation.

A subject in the Bachelor of Business/Bachelor of Arts (Italian), Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
Students will select and carry out a research project on a topic of Italian culture. The subject aims to promote student research skills in the Italian cultural, social, political, historic and economic environments. Students will be supported and supervised appropriately and they will be encouraged to research a topic in depth and present their findings in a written and oral form.

Reference
Swinburne University of Technology | Higher Education Handbook 2002
Content
The subject concentrates on aspects of Italian society (the family, women, youth), politics, economy. Some of the issues raised include immigration, drugs and AIDS, the environment, the education system, the health system. All lectures, class discussions and seminar presentations are conducted in Italian.

Textbook

Aims & Objectives
This subject concentrates on aspects of Italian society (the family, women, youth), politics, economy. Some of the issues raised include immigration, drugs and AIDS, the environment, the education system, the health system. All lectures, class discussions and seminar presentations are conducted in Italian.

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**HAH219  Philosophical Psychology**

**HAH319**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Lectures and Tutorials  • Assessment: Continuous

A subject in the Bachelor of Arts, Bachelor of Arts (Psychology/Psychophysiology), Bachelor of Arts (Media and Communications), Bachelor of Social Science (Psychology), and Bachelor of Social Science.

**Aims & Objectives**

The aim of this subject is to explore the interconnection between philosophical inquiry and theory and research in psychology, with a view to advancing our understanding of the psychology of the person in lifeworld contexts. To this end, we focus on the study of several key themes at the interface of the two disciplines.

**Content**

The content may vary from year to year, but the issues considered are likely to include:

- Psychology as a science.
- Traditional and recent perspectives.
- The erklaren/verstehen distinction.
- The scientific status of qualitative research in psychology.
- Toward a pluralistic approach to the psychological study of persons.
- Introduction to the philosophical background and psychological application of the following approaches to the study of the person in lifeworld contexts: phenomenological, hermeneutic, postmodern, and critical.
- Future directions in philosophical psychology.

**Recommended Reading**

Please consult with lecturer before buying recommended readings.


**HAH222  Practical Ethics**

**HAH322**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Seminars  • Assessment: Essays, Seminar Presentations

A subject in the Bachelor of Arts and Bachelor of Social Science.

**Aims & Objectives**

The aim of this subject is to provide students with the means to understand ethical issues and dilemmas involved in making judgments about how to live and behave.

**Content**

The subject will introduce students to both modern and classical philosophies of ethics. It will examine the achievements and limitations of modern ethical philosophies and recent efforts to revive classical philosophies to overcome these limitations. Much of the course will be devoted to applying such thinking to various practical domains: to everyday life, to business, to medical practice, to issues raised by computers and the information society, to the environment, and so on.

**Recommended Reading**

- Daly, H., _Cobb, J._, _For the Common Good: Redirecting the Economy toward Community, the Environmental, and a Sustainable Future_, 2nd Edn., Beacon Press, Boston, 1994.

**HAH223  Environmental Philosophy**

**HAH323**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Seminars  • Assessment: Assignments, Tutorials

A subject in the Bachelor of Arts; Bachelor of Arts (Media and Communications), Bachelor of Social Science; and Bachelor of Social Science (Psychology).

**Aims & Objectives**

The subject aims to provide students with a background understanding of mainstream ethics and economic theory, including an appreciation of the weaknesses of these disciplines. Advances in environmental economics and theories of environmental policy formation and assessment will also be covered.

**Content**

The global destruction of the environment is perhaps the most serious crisis humanity has ever had to confront. This course examines the cultural, social and economic roots of this crisis, with specific reference to Australia, and considers the action open to us. While ethics and political philosophy are considered, the major focus of the course is on economic theory and policy formation. The assumptions of prevailing economic thought and policy analysis are critically examined, and new approaches to economics and policy formation designed to take into account energetic and ecological processes and provide the basis for an environmentally sustainable society, are investigated.

**Recommended Reading**

- Daly, H., _Cobb, J._, _For the Common Good: Redirecting the Economy toward Community, the Environmental, and a Sustainable Future_, 2nd Edn., Beacon Press, Boston, 1994.

**HAH224  Natural Philosophy and the Sciences**

**HAH324**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Seminars  • Assessment: Essays, Seminar Presentations

A subject in the Bachelor of Arts and Bachelor of Social Sciences.

**Aims & Objectives**

The central question addressed in this course is: What is science? Characterising science is not just a descriptive enterprise: it is also evaluative. It involves discriminating between genuine science and what purports to be science. The aim of this course is to show that genuine science is research based on a coherent philosophy of nature, and to show that the issues raised by the present challenge to the classical philosophies of nature developed in the seventeenth century. In particular, it aims to explore the consequences of accepting the new philosophy of nature for the human sciences.

**Content**

Science in the twentieth century is inaugurating one of the most radical revolutions in thought in the history of humanity, a revolution which has been disguised by logical positivist theories of knowledge. In this course the breakdown of logical positivism and the development of new theories of knowledge adequate to the history and practice of science is examined. Developments in the theory of knowledge have revealed the foundations of science in the philosophy of nature, that is, the quest to characterise the nature of physical existence. The 'new physics', the 'new biology' and those social sciences being developed in accordance with advances in the natural sciences are shown to be not merely additions to knowledge, but part of a transformation in our basic conception of physical existence, of what is life, and what it is to be human. These transformations are enabling us to understand how we, as both cultural beings and part of nature, are able to create science and to achieve this understanding of the world and ourselves. The course concludes by looking at science as a cultural process, as a major part of the process through which humans are creating and transforming themselves and their relationship to the rest of nature.

**Recommended Reading**

- Chalmers, A., _What is This Thing Called Science?, 2nd Edn._, University of Queensland Press, St. Lucia, 1982.
- Bohn, D., _Peat, F.D._, _Science, Order, and Creativity_.

**HAH225  Philosophy, Politics, and Society**

**HAH325**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Lectures and Tutorials  • Assessment: Continuous

A subject in the Bachelor of Arts; Bachelor of Arts (Media and Communications), Bachelor of Social Science and Bachelor of Social Science (Psychology).

**Aims & Objectives**

This subject aims to introduce students to key issues and debates in contemporary social and political theory, with special reference to the problem of sustaining a just, egalitarian, and inclusive political order in the context of a multicultural, diversified, and pluralistic society.

**Content**

Content may vary from year to year, but the issues considered are likely to include:
What does it mean to be rational? What is the relationship between rationality, reason and truth in light of recent developments which have seriously challenged our traditional understanding of these concepts. The challenges in question include: the changing and diverse nature of contemporary society and the related implication that ideas of knowledge and truth are relative to our social, or cultural, group; our awareness of the prevalence of paradigm changes; the rise of postmodern theory and the advent of ideas of knowledge and truth are relative to our social, or cultural, group; our awareness of pervasive paradigm changes in science, social science, and social development. What sense can we make of the concept of reason and truth in a pluralistic age? What are the main traditional theories of truth? What are the main theories of truth? What use is inquiry may enable us to achieve a better understanding of ourselves, our relations to others, and of the world we jointly inhabit, with a view to responding more effectively to emerging problems which affect our collective well being.

**Recommended Reading**

Please consult with lecturer before buying recommended readings.

Krause, B. *An Introduction to Political Philosophy*. Oxford University Press, 1996.

**HAH226 Knowledge, Reason, and Society: Contemporary Issues and Perspectives**

12.5 Credit Points  •  1 Semester  •  3 Hours per Week  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: Lectures and Tutorials  •  Assessment: Continuous.

A subject in the Bachelor of Arts, Bachelor of Arts (Media and Communications), Bachelor of Social Science and Bachelor of Social Science (Psychology).

**Aims & Objectives**

This subject aims to provide a contemporary introduction to problems of knowledge, reason and truth in light of recent developments which have seriously challenged our traditional understanding of these concepts. The challenges in question include: the changing and diverse nature of contemporary society and the related implication that ideas of knowledge and truth are relative to our social, or cultural, group; our awareness of the prevalence of paradigm changes; the rise of postmodern theory and the advent of an information society with a correlative proliferation of virtual communities of inquiry as well as virtual conceptions of reality. This subject aims to meet the pressing need for an enriched, contemporary understanding of key epistemological concepts in the wake of such developments. Further, this subject aims to examine how a process of reasoned inquiry may enable us to achieve a better understanding of ourselves, our relations to others, and of the world we jointly inhabit, with a view to responding more effectively to emerging problems which affect our collective well being.

**Content**

Content may vary from year to year, but the questions considered are likely to include the following:

- What is truth? Is truth made or discovered? Is truth one, or multiple? What use is truth in a pluralistic age? What are the main theoretical theories of truth? What changes, if any, are called for today? Who decides?
- What does it mean to be rational? What is the relationship between rationality, social science, and social development? What sense can we make of the concept of rationality in light of our awareness of pervasive paradigm changes in science and social science? Is there one rationality or many? What is the relationship between western rationality and the rationality of other cultures? Does it pay to be rational?
- What is the relationship between knowledge, thought, and language? Why has `knowledge` come to be seen as `contested`? How does this differ from the traditional view of knowledge as correct representation? What meaning can knowledge and truth have in view of the advent of virtual communities of inquiry and of related conceptions of virtual reality?

- How does an understanding of contemporary epistemology better enable us to understand our world, and to identify and respond to emerging problems affecting our collective well being?

**Recommended Reading**

Please consult with lecturer before buying recommended readings.

Krause, B. *An Introduction to Political Philosophy*. Oxford University Press, 1996.

**HAH326 Introduction to Japan: A Cultural Overview**

12.5 Credit Points  •  1 Semester  •  3 Hours per Week  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: Lecture and tutorial  •  Assessment: Oral tutorial presentation; Essay on the tutorial presentation topic; test; participation.

A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Social Science and Bachelor of Arts.

**Aims & Objectives**

The objectives of the subject are to introduce students to the history of Japan and its cultural heritage. Students of Japanese will gain a better understanding of the evolution of the language. Business students, as well as those undertaking an Asian Studies Major, will gain the knowledge of events and cultural changes leading to the emergence of the contemporary society as well as its political and economic systems.

**Content**

This subject introduces historical and cultural topics of direct relevance to the development of Japanese art forms, culture and society. The recommended reading texts used in the subject are in English.

**Textbook**


**References**

Krause, B. *An Introduction to Political Philosophy*. Oxford University Press, 1996.

**HAH102 Introduction to Japan: A Cultural Overview**

12.5 Credit Points  •  1 Semester  •  3 Hours per Week  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: Classwork and Computer Laboratory  •  Assessment: Mid -Semester test; Final Examination; Class Performance.

A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

**Aims & Objectives**

To provide students with basic knowledge of the language, including basic literacy skills and an introduction to basic business etiquette. Emphasis is placed on correct pronunciation, acquisition of vocabulary and the fundamentals of grammar.
Content
The course includes 4 components: basic grammar, reading/writing of the kana scripts and kanji, aural comprehension and oral expression. Hiragana and Katakana (the two syllabaries) and an introduction to kanji (Chinese characters).

References
Textbooks are subject to revision. Please refer to subject outline provided by your lecturer in class.

HAJ108 Written Japanese 1B
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAJ107 or equivalent competence in written language. • Corequisites: HAJ108 • Teaching methods: Grammar and reading and writing, Classwork and Computer Laboratory. • Assessment: Mid-Semester test, Final Examination, Class Performance.
A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
To continue extending students’ basic knowledge of the written language through introduction of more complex grammar patterns and reading texts. Emphasis is placed on extension of literacy skills through introduction of further 150 kanji (Chinese characters).

Content
This subject is a continuation of the HAJ107 Japanese language program. It extends the range of grammar patterns, kanji and reading texts. Study of these components is reinforced by computer-based exercises.

References
Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

HAJ109 Spoken Japanese 1B
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAJ107 or equivalent competence in spoken language. • Corequisites: HAJ109 • Teaching methods: A combination of Audio-visual work and Conversation Classes. • Assessment: Mid-Semester test, Final Test, Class Performance.
A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
To extend students’ basic knowledge of the spoken language through the introduction of more complex conversation topics and aural comprehension texts. Emphasis is placed on development of oral skills for a range of interpersonal interactions, including basic business interactions.

Content
In this subject, conversation classes are based on situational dialogues which reinforce grammar and teach interpersonal communication skills. The dialogues are supplemented with slides to allow more practice of new vocabulary and expressions.

References
Textbooks are subject to revision. Please refer to subject outline provided by your lecturer in class.

HAJ131 Advanced Japanese 1A
12.5 Credit Points • 1 Semester • 6 Hours per Week • Hawthorn • Prerequisite: VCE Japanese or equivalent competence in written and spoken language. • Teaching methods: Classwork and Computer Laboratory work. • Assessment: Mid Semester test, Final Examination, Class performance.
A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
To consolidate students’ knowledge of grammar and script acquired through prior study at the secondary level. To expand this knowledge through introduction of a wider range of basic grammar patterns and reading texts (including approximately 300 new kanji) and more adult conversation topics including business situations.

Content
In HAJ131 students revise coursework covered in year 12 and learn some new grammar patterns and kanji. Conversation classes are based on situational dialogues which reinforce grammar and teach interpersonal communication skills. The dialogues are supplemented with slides to allow more practice of new vocabulary and expressions. Study of grammar, kanji and reading texts is reinforced by computer-based exercises.

References
Mizutani, N. & Mizutani, O. NIHongo Notes Vols 1-2.
Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

HAJ132 Advanced Written Japanese 1B
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAJ131 or equivalent competence in written language. • Corequisites: HAJ132 • Teaching methods: Classwork and Computer Laboratory work. • Assessment: Mid-Semester test, Final Examination, Class Performance.
A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
To continue extending students’ competence in written language through introduction of more complex grammar patterns and reading texts. Literacy skills are expanded through introduction of further 300 kanji (Chinese characters).

Content
The subject extends the range of grammar patterns, kanji and reading texts. Study of these components is reinforced by computer-based exercises.

References
Mizutani, N. & Mizutani, O. NIHongo Notes Vols 2-3.
Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

HAJ133 Advanced Spoken Japanese 1B
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAJ131 or equivalent competence in spoken language. • Corequisites: HAJ133 • Teaching methods: Aural comprehension and Conversation classes. • Assessment: Mid-Semester Test, Final Test, Class performance.
A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
To extend students’ competence in the spoken language through introduction of more complex conversation topics and aural comprehension texts. Emphasis is placed on development of oral skills for a range of everyday situations including business situations.
Subject Details

Content
The course includes 2 main components: aural comprehension and oral expression.

References

Textbooks are subject to revision each year. Please refer to the subject outline provided by your lecturer in class.

HAJ202 Communication in Japanese
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAJ108 and HAJ109 or HAJ132 and HAJ133 • Teaching methods: A weekly 2 hour seminar (attendance is compulsory) • Assessment: Seminar presentation, Research paper, Test, Attendance, Participation.

A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Social Science and Bachelor of Arts.

Aims & Objectives
The objectives of the subject are to equip students of Japanese with the skills of interpersonal communication in Japanese social and business environments. Study of the language provides students with linguistic skills. However, more is required to prepare them for participation in Japan-related employment. Thus the aims of this subject are to 'fill the gap' by supplementing the language with competence in Japanese communication patterns.

Content
This subject explores the linguistic and non-linguistic elements which characterise Japanese communication patterns. A particular focus is on the difference between Australian and Japanese norms of interpersonal interaction in social and business environments. Study of the subject involves regular interaction with native speakers of Japanese for the purpose of obtaining empirical data on the contemporary usage of the language. The subject is organised as a series of seminars and involves active participation of all students.

References

A comprehensive list of other references is available from the subject coordinator.

HAJ210 Advanced Japanese 2A
12.5 Credit Points • 1 Semester • 6 Hours per Week • Hawthorn • Prerequisite: HAJ111 and HAJ112 or equivalent competence in Japanese. • Teaching methods: Classroom and Computer Laboratory work. • Assessment: Mid-Semester test, Final Examination, Class Performance.

A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

Note: This subject is only available for students who completed HAJ110, HAJ111, & HAJ112 in 2001. This subject will not be offered after 2002.

Aims & Objectives
The aim of this subject is to build on the skills acquired at the Stage One level by increasing knowledge of grammar patterns, vocabulary and kanji, as well as improving on existing speaking and listening skills in order to prepare students for language study at a more advanced level in general and in business situations.

Content
The course includes 5 components: grammar, reading, writing, aural comprehension and oral work. Literacy skills are expanded through introduction of further 350 kanji (Chinese characters) on various topics. Emphasis is placed on development of oral skills for an extended range of communicative situations and on correct use of honorifics in general and in business situations.

References

Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.
HAJ215 Intermediate Japanese 2A
12.5 Credit Points • 1 Semester • 6 Hours per Week • Hawthorn • Prerequisite: HAJ108 and HAJ109 or equivalent competence in written and spoken Japanese.
Teaching methods: Classroom and Computer Laboratory work. Assessment: Mid-Semester test, Final Examination, Class Performance.
A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.
Aims & Objectives
To continue extending students’ competence in the written and spoken language through the introduction of more complex grammar patterns, reading texts and aural comprehension texts.
Content
The course includes 5 main components: grammar, reading, writing, aural comprehension and oral expression. Literacy skills are expanded through introduction of further 300 kanji (Chinese characters). Emphasis is placed on the development of oral skills for a range of everyday situations, including business situations.
References
Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

HAJ217 Written Japanese 2B
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAJ215 or equivalent competence in written Japanese. Corequisites: HAJ219
Teaching methods: Classroom and Computer Laboratory work. Assessment: Mid-Semester test, Final Examination, Class Performance.
A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.
Aims & Objectives
The aim of this subject is to build on the reading and writing skills acquired in previous study by increasing knowledge of grammar patterns, vocabulary and kanji, in order to prepare students for language study at a more advanced level.
Content
The course includes 3 components: grammar, reading and writing. Literacy skills are expanded through introduction of further 300 kanji [Chinese characters]. Study of grammar and reading texts is reinforced by computer-based exercises.
References
Mizutani, N., & Mizutani, O., NIHONGO Notes Vol. 2-3.
Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

HAJ218 Spoken Japanese 2B
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAJ215 or equivalent competence in spoken Japanese. Corequisites: HAJ217
Teaching methods: Classroom and Computer Laboratory work. Assessment: Mid-Semester test, Final Examination, Class Performance.
A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.
Aims & Objectives
To extend students’ competence in the spoken language through introduction of unabridged aural comprehension texts. Emphasis is placed on development of oral skills for an extended range of communicative situations, including correct usage of honorifics in business situations.
Content
The course includes two main components: aural comprehension and oral expression.

References
Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

HAJ231 Advanced Written Japanese 2A
12.5 Credit Points • 1 Semester • 6 Hours per Week • Hawthorn • Prerequisite: HAJ130 and HAJ134 or equivalent competence in Japanese. Corequisites: HAJ232
Teaching methods: Classroom and Computer Laboratory work. Assessment: Mid-Semester test, Final Examination, Class performance.
A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.
Note: This subject will be introduced from 2003 and will only be available to students who complete HAJ1131, HAJ1132 & HAJ1135 in 2002.
Aims & Objectives
The aim of this subject is to build on the skills acquired at the Stage One level by increasing knowledge of grammar patterns, vocabulary and kanji, in order to prepare students for language study at a more advanced level in general and in business situations.
Content
The course includes grammar, reading and writing. Literacy skills are expanded through introduction of further 350 kanji [Chinese characters] on various topics. Emphasis is placed on development of oral skills for an extended range of communicative situations and on the correct use of honorifics in general and in business situations.
References
Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

HAJ232 Advanced Spoken Japanese 2A
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAJ131, HAJ132 and HAJ134 or equivalent competence in Japanese. Corequisites: HAJ231
Teaching methods: Classroom and Computer Laboratory work. Assessment: Mid-Semester test, Final Examination, Class performance.
A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.
Note: This subject will be introduced from 2003 and will only be available to students who complete HAJ131, HAJ132 & HAJ135 in 2002.
Aims & Objectives
The aim of this subject is to build on the skills acquired at the Stage One level by improving on existing speaking and listening skills in order to prepare students for language study at a more advanced level.
Content
The course includes aural comprehension and oral work. Emphasis is placed on development of oral skills for an extended range of communicative situations and on correct usage of honorifics in general and in business situations.
References
Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

HAJ233 Advanced Written Japanese 2B
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAJ231 & HAJ232 or equivalent competence in written Japanese. Corequisites: HAJ234
Teaching methods: Reading, writing, grammar classes and Computer Laboratory work. Assessment: Mid-Semester test, Final Examination, Class performance.
A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.
Note: This subject will be introduced from 2003 and will only be available to students who complete HAJ1131, HAJ1132 & HAJ1135 in 2002.
Aims & Objectives
To continue extending students’ competence in the written language through reading of unabridged texts. The writing component provides training in different writing styles and includes exposure to kanji (Chinese characters) on various topics.

Content
The course includes 2 components: reading (unabridged texts) and composition writing (approximately 1350 kanji and Kanata) focused on different writing styles (e.g. reports, essays, formal letters, etc.).

References

Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

HAJ234  Advanced Spoken Japanese 2B

12.5 Credit Points  3 Hours per Week  Hawthorn  Prerequisite: HAJ231 & HAJ232 or equivalent competence in spoken Japanese.  Corequisites: HAJ233  Teaching methods: Conversation/Slide and Video classes  Assessment: Mid-Semester Test, Final Test, Class.

A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

Note: The subject will be introduced from 2003 and is only available for students who have completed HAJ131, HAJ132 & HAJ133 in 2002.

Aims & Objectives
To extend students’ competence in the spoken language through exposure to unabridged aural comprehension texts. Emphasis is placed on further development of oral skills for an extended range of communicative situations and on correct usage of different speech registers, including business situations.

Content
This subject is designed to build Japanese communication skills. The course is comprised of the components of slide, conversation and listening comprehension. Conversation classes are based on situational dialogues. The dialogues are supplemented with slides to allow more practice of new vocabulary and expressions. Listening is based on current video materials.

References

Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

HAJ302  Work Experience in Japan

12.5 Credit Points  1 Semester  Hawthorn  Prerequisite: HAJ202; Third year students with high competency in Japanese.  Assessment: Participation, employer evaluation, research report (1500-2000 words).

A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
The objective of this elective subject is to provide students with a six months experience of living in Japan and working in a Japanese company as a regular employee. Students who wish to take this subject should consult the subject leader.

References

Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

HAJ318  Written Japanese 3A

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: HAJ217 or equivalent competence in written Japanese.  Corequisites: HAJ319  Teaching methods: Classwork and Computer Laboratory work  Assessment: Mid-Semester test, Final Examination, Class Performance.

A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
To continue extending students’ competence in the written language through reading of unabridged texts. The writing component provides training in different writing styles and includes formal introduction of further 350 kanji (Chinese characters) as well as exposure to an extensive range of kanji compounds.

Content
This subject is designed to build skills in written Japanese. The course is comprised of the components of reading and writing and grammar. Study of kanji and reading texts is reinforced by computer-based exercises.

References

Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

HAJ323  Written Japanese 3B

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: HAJ217 & HAJ318 or equivalent competence in written Japanese.  Corequisites: HAJ324  Teaching methods: Classwork and Computer Laboratory work  Assessment: Mid-Semester test, Final Examination, Class Performance.

A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
To continue extending students’ competence in the spoken language through exposure to unabridged aural comprehension texts. Emphasis is placed on further development of oral skills for an extended range of communicative situations and on correct usage of different speech registers.

Content
This subject is designed to build Japanese communication skills in spoken Japanese. The course is comprised of the components of slides, conversation and listening comprehension. Conversation classes are based on situational dialogues which reinforce grammar and teach interpersonal communication skills. The dialogues are supplemented with slides to allow more practice of new vocabulary and expressions. Listening is based on current video materials.

References

Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

HAJ324  Spoken Japanese 3B

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: HAJ217 or HAJ318 or equivalent competence in spoken Japanese.  Corequisites: HAJ323  Teaching methods: A combination of a Conversation/Slide class and a Video class  Assessment: Mid-Semester Test, Final Test, Class Performance.

Aims & Objectives
To continue extending students’ competence in the spoken language through exposure to unabridged aural comprehension texts. Emphasis is placed on further development of oral skills for an extended range of communicative situations and on correct usage of different speech registers.

Content
This subject is designed to build Japanese communication skills in spoken Japanese. The course is comprised of the components of slides, conversation and listening comprehension. Conversation classes are based on situational dialogues which reinforce grammar and teach interpersonal communication skills. The dialogues are supplemented with slides to allow more practice of new vocabulary and expressions. Listening is based on current video materials.

References

Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.
A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

**Aims & Objectives**
To continue extending students’ competence in the spoken language through introduction of a variety of unabridged aural comprehension text (video programs) and training in oral expression with emphasis on correct use of the full range of speech registers.

**Content**
This subject is designed to build Japanese communication skills in spoken Japanese.

The course is comprised of slides, conversation and listening comprehension.

Conversation classes cover a wide range of topics and focus on correct use of the full range of speech registers for general and business situations. Slides are used to allow more practice of new vocabulary and expressions. Listening is based on contemporary video materials.

**References**


Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

**HAJ329 Written Business Japanese**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HAJ326  • Corequisites: HAJ325, HAJ328  • Teaching methods: Classwork  • Assessment: Mid-Semester Test, Final Test, Classroom Performance.

A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

Note: This subject is only available to students who complete HAJ326 and HAJ329 and will not be offered after 2003.

**Aims & Objectives**
This subject introduces students to a range of contemporary Japanese written documents relating to business communication.

**Content**
The study of this subject involves reading a wide range of business related documents and writing business letters, faxes and similar. Approximately 200 Kanji (Chinese characters) are also studied.

**References**

Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

**HAJ330 Spoken Business Japanese**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HAJ326  • Corequisites: HAJ329  • Teaching methods: Classwork  • Assessment: Interview Debate, Presentation, Visitor session, Weekly tests, Classroom Performance, Final Test (Listening).

A subject in the Bachelor of Business/Bachelor of Arts (Japanese), Bachelor of Arts and Bachelor of Social Science.

Note: This subject is only available to students who have completed HAJ325 and HAJ326 and will not be offered after 2003.

**Aims & Objectives**
This subject focuses on the enhancement of students’ oral skills relevant to a variety of business situations. Special emphasis is placed on correct use of appropriate speech registers and observance of business etiquette.

**Content**
The study of this subject involves extensive practice in speaking in a variety of simulated business situations. Development of listening skills involves listening to tapes and viewing videos.

**References**

Textbooks are subject to revision each year. Please refer to subject outline provided by your lecturer in class.

**HAL103 Writing Fiction**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Lectures and Tutorials  • Assessment: Continuous.

A subject in the Bachelor of Arts, Bachelor of Arts (Media and Communications), Bachelor of Social Science and Bachelor of Social Science (Psychology).

**Aims & Objectives**
This subject will introduce students to the range of skills required of the professional writer of fiction. A series of workshop exercises will develop skills in creating character, dialogue and dramatic tension. Point of view, voice, form, style, plot, tone, description, and their place in building a story will be explored. The importance of revision, listening to criticism and developing a self-critical stance will be stressed, together with techniques for developing these personal skills.

**Content**
An introduction to techniques of critical and creative thinking will be provided; for example, plugging into both rational and irrational processes; the role of conjectural thinking, intuition and luck; the use of analogies, metaphors, and associative thinking;
peering and creating relationships. Emphasis is placed on the participant as writer and critic.

**Recommended Reading**

**HAL209 Australian Writing and Cultural Change**

- 12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn 
- Prerequisite: HALM104 or approved equivalent, HAP100 (for students majoring in Australian Studies).  • Teaching methods: Lectures and Tutorials  • Assessment: Continuous.

A subject in the Bachelor of Arts, Bachelor of Arts (Media and Communications), Bachelor of Social Science and Bachelor of Social Science (Psychology).

**Aims & Objectives**
This subject is an examination of the changing face of Australian life and literary culture. It takes a contemporary issues approach to the study of social and cultural debates within Australian life, and how writing contributes to and reflects these debates.

**Content**
Issues to do with the ‘theory wars’ of the 1980s, multiculturalism and indigenous politics, feminism and queer theory will be explored. The impact of information technology on the formation of new social spaces (such as the virtual community), as well as changing notions of identity and cultural politics, will also be addressed.

**Recommended Reading**

**HAL309 Renaissance Literary Culture**

- 12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn 
- Prerequisite: Two Stage 2 Literature subjects, or approved equivalents.  • Teaching methods: Lectures and Tutorials  • Assessment: Continuous.

A subject in the Bachelor of Arts, Bachelor of Arts (Media and Communications), Bachelor of Social Science and Bachelor of Social Science (Psychology).

**Aims & Objectives**
The principal aim of this subject is to critically investigate the ways in which we read and interpret the literature of the Renaissance.

**Content**
Not losing sight of our position as late twentieth century readers, this subject explores the place that literature occupied within Renaissance culture as a whole. Drawing on contemporary theoretical models, it seeks to relate the historical phenomenon of the renaissance to the modern/postmodern debate.

**Recommended Reading**

**HAL401 Cultural Convergence**

- 12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn 
- Prerequisite: Nil.  • Teaching methods: Lecture and Tutorial  • Assessment: Essay.

A subject in the Graduate Certificate in Applied Media and Graduate Diploma in Applied Media.

**Aims & Objectives**
This subject is designed to promote the theoretical investigation of the changing face of communications. Specifically, issues relating to the convergence from a literate to an electronic culture will be explored.

**Content**
Through a range of theoretical and critical readings, students will investigate the consequences for writers and readers of new media and new writing technologies, such as hypertext and multi-media. What, for example, does multimedia have to offer the story-teller that print doesn’t? Students will be encouraged to consider the transformations of the word, tracing the stages of its shift from speech to writing and tele-writing, and to explore the ways in which this shift has altered notions of social interaction, community, space and identity.

**Recommended Reading**

**HALM104 Media, Literature, Film: Texts and Contexts**

- 12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn 
- Prerequisite: Nil  • Teaching methods: Lectures and Tutorials  • Assessment: Continuous: Essay 50%, Class work 50%.

A subject in the Bachelor of Arts, Bachelor of Social Science, Bachelor of Science (Biotechnology)/Bachelor of Arts (Media & Communications).

**Aims & Objectives**
Through the examination of texts drawn from literature, film, television, video and new media forms, this subject aims to introduce students to key concepts that are central to both literary and media studies. Students will be encouraged to re-think assumptions about how we read and to scrutinise the ‘common sense’ critical methods we customarily use to assess what we watch and read. It is envisaged that students will acquire an insight into the notion of representation, a term that not only applies to works of art, but also to critical practice and to the formation of both texts and criticism in disciplines or objects of study.

Central to this theme are the following objectives:

- An understanding of basic concepts such as text, context, narrative, medium and image.
- Flexibility in discussing and analysing texts from across different media and the ability to comment on their similarities and differences.
- An appreciation of oneself as a reader with an ability to think independently about texts and the variety of contexts in which it is possible to place them.
- An awareness of form and the conditions that make representations intelligible or otherwise.

As this subject is a core unit for both the Literature and Media majors, it is expected that students will acquire a solid grounding in analytical and theoretical skills and will develop the intellectual curiosity required of both courses of study.

**Content**
How do we represent ourselves in contemporary society? How do we make sense of these representations? In an age increasingly dominated by electronic art and communications, how do we understand the complex interrelationships between traditional representational forms (such as novels and plays), mass-media forms (film, television and radio) and emergent new media (hypertext and interactive multimedia)?

Through an examination of texts drawn from literature, film, television, video and new media forms, this subject aims to introduce students to key concepts that are central to both literary, film and media studies. Our interest in studying these texts is not to establish their worth, but to draw attention to their cultural conditions of meaning, to our work as readers, to the ways in which we produce meanings from (or are confused by) texts, and to the values they embody in their representations.

**Recommended Reading**
HALM201: Media Voices, Media Style: The Process of Journalism

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HALM104 or HAM105 and any Stage 2 Media Studies subject or equivalent.

Aims & Objectives
Newspapers, radio and television all report the news. However, while they may report the same events, each medium has a different ‘news voice’ resulting from its particular set of institutional practices and constraints which shape how events are reported.

Content
This subject takes both a theoretical and practical approach to news writing by looking at the different reporting strategies and practices of newspapers, radio and television on-line journalism.

Recommended Reading

HALM206: Issues in Electronic Media

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HALM104 or HAM105 • Teaching methods: Lectures and Tutorials • Assessment: Continuous.

Aims & Objectives
This subject is an introduction to some of the major historical and contemporary issues in new media technologies. In particular, it aims to provide you with frameworks for understanding the genealogies of new media and their relationships to older technologies. Students will be asked such questions as:

- What is a medium?
- What is technology?
- What is culture?
- How do these interact with each other?

Drawing on debates which focus on the relations between the body, mind and new media technologies, you may even be asked to consider what it means to be human.

Content
As well as encouraging students to think through issues relating to new media, the subject aims to provide students with both the experience of using and the skills to use new technologies effectively. The subject will be delivered using a combination of face to face teaching and all of the above technologies (hypertext, email, Internet Relay Chat, MUDs (multi-user domains), CD-ROM and VRML). Students will be required to submit work for assessment in a similar array of formats.

Recommended Reading

HALM317: Literature/Media Project

12.5 Credit Points • 15 Days or equivalent • Hawthorn • Prerequisite: 5 Literature/ Media Studies subjects • Teaching methods: Supervised project • Assessment: Continuous.

Aims & Objectives
In this subject, students undertake a literature project, a work placement in industry or a combination of both. Students undertaking a literature project are supervised in both the design and implementation of a product of their choice (eg. an electronic journal; a multimedia presentation; a research report) targeted and delivered to a client. Students undertaking work attachment will be placed at one of a variety of institutions and will be required to report on that institution as part of their assessment. Alternatively, students can negotiate a combination of work attachment and project with their supervisor.

Recommended Reading
ethical issues associated with the media are canvassed, such as the ownership and control of radio, television stations, newspapers and Pay TV; the regulatory climate, accountability in programming, relationships to audiences and journalistic practices and ethics. Voiced issues, such as media freedom and reform, public participation in ownership and programming, regulatory changes in broadcasting, and professional journalistic standards are discussed from a range of perspectives.

**Recommended Reading**


**Ward, I., Politics of the Media, MacMillan, Melbourne, 1995.**

**HAM210 Popular Culture**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HAML104 or HAM105  • Teaching methods: Lectures and Tutorials  • Assessment: Continuous.

A subject in the Bachelor of Arts, Bachelor of Arts (Media and Communications), Bachelor of Social Science, and Bachelor of Social Science (Psychology).

**Aims & Objectives**

The central aim of the subject is to encourage students to engage in a critical analysis of the culture around them. Students will be able to draw on their own experiences of culture and critically examine their own constructions of meaning and the pleasures of involvement.

**Content**

This subject will introduce issues and debates in contemporary culture and cultural analysis. It will investigate the diversity of images, ideologies, meanings and practices which comprise popular culture. Issues such as shopping, fashion, advertising, drugs, pornography, gambling, music and sport will be analysed. Special emphasis will be placed on the role and significance of the media and its representations of popular culture. The subject will also consider the commercial and institutional imperatives shaping popular culture and its multiple relations to political processes.

Major theoretical reference points in this subject will include marinist, feminist, postmodern and structuralist analysis of late capitalism. Consideration will be given to the ongoing debates which surround cultural meanings and practices in the current Australian context.

**Recommended Reading**


**HAM211 New Media: The Telecommunications Revolution**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HAML104 and HAM105, and HAPI112 for students majoring in Australian Studies  • Teaching methods: Lectures and Tutorials  • Assessment: Continuous.

A subject in the Bachelor of Arts, Bachelor of Arts (Media and Communications), Bachelor of Social Science and Bachelor of Social Science (Psychology).

**Content**

This subject examines the convergence of broadcasting and telecommunications in the context of political, economic and social change associated with new media. It is widely asserted that we are now living through an information revolution and that media are undergoing profound change. It will examine who is driving these changes and who might benefit from them. New communications technologies and their applications, such as cable and pay television, interactive television, WebTV, and Internet, are discussed in terms of their challenges to established systems. Special attention is given to changes in the telecommunications industry, with the shift towards privatisation, managed competition and a new service culture. Notions such as technological determinism, globalisation, media plurality, information superhighways and information access and equity, will be assessed for their influence on this alleged information revolution. The effects of new communications technologies on content, diversity and social needs in Australia are canvassed. Additionally, the cultural implications of electronic communication, made possible by technological change, are examined for special needs groups.

**Recommended Reading**

Armstrong, M., Molnar, H., Control and Ownership of Australian Communications: Media and Telecommunications Policy Group, Melbourne, 1996.


**HAM312 Cinema Studies**

12.5 Credit Points  • 1 Semester  • 4 Hours per Week  • Hawthorn  • Prerequisite: HAML104 and any two Stage 2 Media Studies subjects or equivalent  • Teaching methods: Screensings, Lectures and Seminars  • Assessment: Class work 50% and Final Paper 50%.

A subject in the Bachelor of Arts, Bachelor of Arts (Media and Communications), Bachelor of Social Science and Bachelor of Social Science (Psychology).

**Aims & Objectives**

This subject is designed to develop skills which are applicable to a wide range of disciplines and highly valued by most prospective employers. By the end of the semester, if students have applied themselves to the assigned tasks and engaged with the learning methods implicit in the teaching of the course, they will have:

- Developed independent research skills.
- Enhanced an ability to develop and formulate a coherent argument.
- Developed analytical and conceptual skills.
- Increased problem-solving abilities.
- Extended their capacity to communicate both verbally and in writing.
- Acquired an awareness of form and of the conditions that make texts intelligible or otherwise.

**Content**

The viewing material for this subject is a selection of films arranged generically (eg. romantic comedy, horror, or science-fiction), thematically (the journey film, or the domestic drama), or stylistically. Using these texts, the ideas introduced during the previous two years of the course will be integrated into a systematic analysis of film. The emphasis is on the practice of film criticism: attention is focused upon the usefulness of structuralist and semiological studies and their function in relation to the humanist discourse which dominates more traditional critical work. In this context, particular questions to do with the developing study of film will be considered throughout the course: for example, the ways in which ideology is inscribed into the works examined (as well as into the methods of examination); the usefulness of the work of the ‘frame-by-frame heretics’, the kinds of relationships constructed between a film and its viewer, the place of the ‘author’ in relation to the formal and thematic organisation of the works which bear his/her name, the usefulness of ‘genre’ studies, the function of the ‘star system’, and the relationship between the film, the industry and the cultures in which they exist.

**Recommended Reading**


Grant, B.K. (ed.), Film Genre Reader, University of Texas Press, Austin, 1988.


CineAction, Cinema Papers, The Journal of Popular Film and Television, Film Comment, Sight and Sound, Film Quarterly.

**HAM313 Radio Production and Criticism**

12.5 Credit Points  • 1 Semester  • 4 Hours per Week  • Hawthorn  • Prerequisite: HAML104 or HAM105 and any other Stage 2 Media Studies subject or equivalent  • Teaching methods: Lectures and Tutorials  • Assessment: Continuous.

A subject in the Bachelor of Arts, Bachelor of Arts (Media and Communications), Bachelor of Social Science and Bachelor of Social Science (Psychology).

**Aims & Objectives**

This is a production course which aims to equip students with the skills necessary for successful participation in radio production. Sound recording, editing, panel operation, voice production and interviewing are all covered. While the acquisition of production skills is an essential part of the course, the broader context of how those skills can be applied is always kept in mind.

**Content**

As well as developing practical radio skills, this subject will cover areas such as radio news and current affairs, radio drama, indigenous radio, women’s radio, scriptwriting and voice production.
**Recommended Reading**


**HAM314 Professional Attachment Program**

12.5 Credit Points  • 1 Semester (comprises 15 days of full-time work)  • Hawthorn  • Prerequisite: HALM104 or HAM105 and two Stage 2 Media Studies subjects or equivalent. No prerequisites are required for students undertaking this subject in the Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Applied Science (Computer Science & Software Engineering).  • Teaching methods: Lectures and Tutorials  • Assessment: Continuous.  • Continuous (pass/fail only).

A subject in the Bachelor of Arts (Media and Communications). Note: Enrolment in this subject is by application only.

**Aims & Objectives**

The goal of the professional attachment placement is to provide students with an introduction to the media workplace, and the opportunity to test in practice the principles to which they have been introduced during the earlier parts of their course. The subject is also designed, via consultation with supervisors from the University and in the workplace, to offer students the opportunity to learn how to approach particular problems and to initiate the kinds of contacts which will be of use to them when they graduate from the University and attempt to set themselves up in their professional lives.

**Content**

This subject is available during semester two to a limited number of students. Those selected will be attached, after consultation, to a variety of media organisations. There they will be required in the final year of their degree to work under the direction of the supervising staff member. The program will be overseen by a member of the Media and Communications staff, and students will be required to keep a diary account of their attachment.

**HAM315 Information Society: A Global Perspective**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HALM104 and two Stage 2 Media Studies subjects or equivalent. No prerequisites are required for students undertaking this subject in the Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Applied Science (Computer Science & Software Engineering).  • Teaching methods: Lectures and Tutorials  • Assessment: Continuous.  • Continuous (pass/fail only).

A subject in the Bachelor of Arts, Bachelor of Arts (Media and Communications), Bachelor of Social Science and Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Applied Science (Computer Science & Software Engineering).

**Content**

This subject is an examination of media and communications in the context of a post-industrial or information society. Key questions about the contemporary technological revolution are addressed, such as who decides about new technologies, and how, whose interests are served, how national policies are fashioned, and whose information needs will be met by these technologies of abundance. Crucial here is a variety of political, social and ethical issues, including vexed territory such as ownership and control of information systems, privatisation and deregulation of broadcasting and telecommunications, corporate and community information systems and international information transfer. Considerable emphasis is placed on the methodology of investigation, analysis of reports and government inquiries, and the presentation of data and information. Students are encouraged to present their work in a form that will enable it to be available to the community.

**Recommended Reading**


**HAM316 Radio Production and Criticism B**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HAM313  • Teaching methods: Lectures and Laboratories  • Assessment: Continuous.  • Continuous (pass/fail only).

This subject is available ONLY to Bachelor of Arts (Media and Communications) students.

**Aims & Objectives**

This course aims to extend the knowledge gained by students in HAM313 and allows students to apply and extend their radio production skills. Building on the skills developed in the previous semester’s work, students are involved in the production of documentary and variety programs with the aim of securing broadcast airtime.

**Content**

The emphasis of this course is on praxis - students are encouraged to apply the theoretical knowledge of radio textual analysis to their own productions and are encouraged to constantly review their own and other’s work with reference to the constructs examined in HAM313. They are also expected to keep abreast of changes and developments in the radio industry.

**Recommended Reading**

HAM410  Electronic Writing

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Lectures and Tutorials  • Assessment: Research Essay (30%), Project (55%), Participation (15%)

A subject in the Graduate Certificate in Applied Media and Graduate Diploma in Applied Media.

Aims & Objectives

This subject aims to critically examine current theory relating to electronic writing and, in particular, hypertext. Does the embodiment of electronic writing in the form of stand-alone hypertext applications or in the form of the World Wide Web (through hypertext Markup Language - HTML) change our relationship as readers to the written word? Does electronic writing, as Mark Poster argues, represent a third stage in the mode of information in which ‘the self is decentered, dispersed, and multiplied in continuous instability’?

Alongside these questions, students will be introduced to HTML and asked to consider the experience of writing in an online, electronic environment (namely, the WWW). What are the rules (if any) which govern this new writing space and to what extent has a rhetoric of electronic writing been developed? Students will be encouraged to rethink the concept of writing and to ask themselves such elusive questions as ‘What is a medium?’.

Content

Students will access the Internet and develop writing skills designed for the electronic environment, using web publishing packages and authoring software.

Recommended Reading


HAM411  Globalisation: Media and Telecommunications

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Lectures and Tutorials  • Assessment: Seminar paper (40%), Final report (60%)

A subject in the Graduate Certificate in Applied Media and Graduate Diploma in Applied Media.

Aims & Objectives

This subject examines the international market, policy and cultural trends in many fields of communications, with special attention to broadcasting, cinema, and telecommunications industries. It will examine many complex forces for change, particularly the increasing international trend towards privatisation, mega-amalgamation, liberalisation and deregulation. Special attention will be given to debates about international networking, cultural imperialism and globalisation, especially for television and cinema. Contemporary policy debates about the future of broadcasting and the complex issues involved in the introduction of new communications technologies and about the associated institutional pressures, especially on public broadcasters, will be highlighted.

Content

This subject examines the extraordinary growth and changes in the field of telecommunications, with special attention to the convergence of media and telecommunications. The complex forces for change are analysed, particularly the increasing international trend towards privatisation, mega-amalgamation, liberalisation and deregulation. The notion of an electronic culture is discussed in relation to the established political economy, and media and cultural theory.

Recommended Reading


HAM412  Media Project

25 Credit Points  • 2 Semesters  • 2 Hours per Fortnight  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Consultation with supervisor on a regular basis  • Assessment: Project (80%), Production Journal (20%)

A subject in the Graduate Certificate in Applied Media and Graduate Diploma of Applied Media.

Aims & Objectives

Students undertaking a media project are supervised in both the design and implementation of a product of their choice (for example, a radio documentary or an electronic journal) targeted and delivered to a client. This subject is designed to extend the skills acquired by students in radio and electronic writing and to provide an opportunity for students to gain experience in the workplace and to work independently as freelance practitioners. Attention will be paid to the presentation and marketing of the project.

Content

Media project, as the title suggests, is a project based subject and the content of student projects is varied. However, all projects require that students develop project management skills, time management skills and an ability to work independently to a deadline. Students opt for a range of projects from radio documentaries and web sites to video productions. All projects are displayed at a presentation evening.

HAM413  Multimedia Authoring 1

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Assessment: Production exercises (80%), Participation (20%)

A subject in the Graduate Certificate in Applied Media and Graduate Diploma in Applied Media.

Aims & Objectives

The aim of this subject is to provide students with competencies in a range of multimedia production skills to enable them to use these skills in the production of a stand-alone multimedia project.

Content

Students will be introduced to digital audio production and analogue and digital video recording and editing. They will also be instructed in the use of scanning and image manipulation and animation. As part of this subject, students will also be asked to consider a number of issues relating to multimedia production, such as intellectual property and copyright, government policy in regards to multimedia and the funding of multimedia production. Attention will also be paid to the presentation and marketing of multimedia products.

Recommended Reading


HAM414  Multimedia Authoring 2

1 Credit Points  • 4 Weeks  • Hawthorn  • Prerequisite: HAM413  • Assessment: Production exercises (80%), Participation (20%)

A subject in the Graduate Certificate in Applied Media and Graduate Diploma in Applied Media.

Aims & Objectives

In this subject, students are expected to integrate the skills they have acquired into a multimedia project. They may begin a project which can then be used as part of their work for HAM412 Media Project.

Content

Students will further develop their skills with an authoring package, such as Macromedia Director or Asymetrix Toolbook. They will be asked to develop a piece which demonstrates their understanding of and competencies in the use of the technologies addressed in Multimedia Authoring 1. Students will also learn how to combine these discrete elements into a whole. Attention will also be paid to issues relating to the presentation and marketing of multimedia products.

Recommended Reading

HAM424 New Media Production
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAM410 • Teaching methods: Workshops and tutorials • Assessment: Exercises and Seminar participation.
A subject in the Graduate Certificate in Applied Media and Graduate Diploma in Applied Media.
Aims & Objectives
The aim of this subject is to explore the developing area of designing and writing for the World Wide Web. How do you repurpose material from other media in a way that takes advantage of the new medium? What are the characteristics and potentials of the medium which make writing for this environment unique to other media?
Content
Drawing on their expertise in HTML and graphics/sound manipulation acquired in HAM410, students design and construct websites for industry clients.
Recommended Reading

HAM425 Key Cultural Issues in Media and Communication
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures and tutorials • Assessment: Class presentations, Participation, Research Paper.
A subject in the Graduate Certificate of Applied Media and Graduate Diploma of Applied Media.
Aims & Objectives
This subject aims to explore the cultural ramifications of the new information technologies which have become so integrated in contemporary post industrial societies. By placing emphasis on the social, political and cultural manifestations inherent in the application of new technologies, this unit aims to challenge widely accepted propositions put forward by both Technological Determinists and Utopians. Students will develop a deeper awareness of the ways in which new technologies in media and communication contribute to ongoing change in the workplace, in educational institutions, in the home and in our conception of leisure.
Content
• An Introduction into the world of the Virtual. Virtual Relationships, para-social relations, virtual reality and Reality TV.
• Assessing the ideas and arguments presented in Peter Weir’s The Truman Show.
• The Future of Work.: Surveillance and Privacy in the workplace.
• New Media coverage of the Political process - Dr. How New Media continues to transform the political process in Australia.
• Media Manipulations via cable and satellite. A Case Study of new media coverage of the September 11th Terrorist Attack on the US.
• Pornography on the Internet. Dennis Altman’s notion of “Global Sex”.
• New media representations of Medicine and Science. Critique on the role of the Internet.
• New media and communications technologies and the future of Educational institutions, practices and pedagogy.
Recommended Reading

HAM426 Communication Environments
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAM425 • Corequisites: Nil • Teaching methods: Lectures and tutorials • Assessment: Class presentation, Research paper.
A subject in the Graduate Certificate of Applied Media and Graduate Diploma of Applied Media.
Aims & Objectives
This subject deals with what is often relegated to a secondary place — the systematic consideration of the end users in this burgeoning new communications environment. The subject focuses on the need to understand user perspectives rather than technology perspectives, or on the complexities of the demand side of the equation rather than the supply side.
In communications services the value chain for users is changing radically. The old paradigms of telecommunications development — “build the networks and they will come,” or the paradigm of computing development — “there will always be enough users to fill the increasing bandwidth” — are gone. Now the development of so many innovative communications service perspectives requires that organisations which invest in new communications services ought to undertake greater investigation of people’s needs.
Content
• The changing value chain — demand before supply
• The emergent on line economy ie., the Internet and e-commerce.
• New services and applications eg., telehealth, e-education, on line shopping, home banking.
• User methodological issues eg., technology assessment, user demand studies, ratings and audience assessment.
• Changing infrastructure — growth of data services, future of voice, universal services.
• User social dimensions — trust and security, privacy and data control.
• Futures modelling eg., scenario construction and foresight studies of possible economic, social and technological futures.
Recommended Reading

HAM441 Radio in Australia
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture and Tutorial • Assessment: Case Studies.
A subject in the Graduate Diploma of Arts in Commercial Radio.
Aims & Objectives
This subject aims to provide a historical and current overview of Radio in Australia, including Commercial, Government and Public stations and the ownership and control regulations currently in place.
Content
The employment structure and roles of staff are examined in detail, as are technical operations and programming philosophies. Methods of audience surveying and analysis are studied and related to the radio station’s programming and promotional activities.
This subject will also explore the nature and detail of current broadcast legislation and regulations and the legal issues faced by owners and broadcasters relating to defamation and contempt of court. Methods of staff selection and management, including awards and union interests, will be examined. The impact of new technologies, including satellite services, cable, broadcast and in-store radio will be examined, along with applications and improvements in computer systems and Digital Audio technology.
Recommended Reading
This subject allows students to undertake broadcasting in commercial radio. As well as providing students with valuable experience, this subject aims to encourage students to critically evaluate broadcasting practices in the radio industry, implementing the skills and knowledge gained through the process of interacting with an advertising client and gaining the skills to understand and interpret the needs of that client.

**Content**

Students will develop the ability to condense information into a script of pre-determined time length, which effectively communicates the message to its intended target. They will also learn to layout the script ready for client approval and recording. Integral to this process is the development of a clear understanding of the nature of the listening audience and their interaction with the radio medium.

**Recommended Reading**


**HAM444 Advertising Copywriting**

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Participation, Report.

A subject in the Graduate Diploma of Arts in Commercial Radio.

**Aims & Objectives**

This subject is designed for students to explore, understand and master the processes involved in writing radio commercials. Structured assignments will lead the student through the process of interacting with an advertising client and gaining the skills to understand and interpret the needs of that client.

**Content**

Students will develop the ability to condense information into a script of pre-determined time length, which effectively communicates the message to its intended target. They will also learn to layout the script ready for client approval and recording. Integral to this process is the development of a clear understanding of the nature of the listening audience and their interaction with the radio medium.

**Recommended Reading**


**HAM444 Advertising Copywriting**

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Participation, Report.

A subject in the Graduate Diploma of Arts in Commercial Radio.

**Aims & Objectives**

This subject is designed for students to explore, understand and master the processes involved in writing radio commercials. Structured assignments will lead the student through the process of interacting with an advertising client and gaining the skills to understand and interpret the needs of that client.

**Content**

Students will develop the ability to condense information into a script of pre-determined time length, which effectively communicates the message to its intended target. They will also learn to layout the script ready for client approval and recording. Integral to this process is the development of a clear understanding of the nature of the listening audience and their interaction with the radio medium.

**Recommended Reading**


HAM500 Globalisation: Media and Telecommunications
25 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: Nil  
Teaching methods: Lecture and Tutorial  Assessment: Production of a Research Proposal (50%), Final Presentation (50%).
A subject in the Master of Arts (Communications).

Content
This subject examines the extraordinary growth and changes in the fields of communication, with special attention to the convergence of media and telecommunications. The complex forces for change, particularly the increasing international trend towards privatisation, mega-amalgamation, liberalisation and deregulation. The notion of an electronic culture is discussed, with relationship to established political economy and media and cultural theory.
Almost every developed society is seeking national comparative advantage in communications policy, often expressed in terms of a strategy for an emergent network society or a superhighway policy. Approaches taken by the USA, Canada, Europe, Asia and Australia will be analysed, with special reference to international networking, cultural imperialism, globalisation and equity issues.
Alternative international industry approaches, from the different perspectives of parties and government, carriers, suppliers and interest groups, will be examined in the context of comparative policy models. The political policy process and the forces for change will be analysed in terms of lessons and outcomes for Australia.

Recommended Reading

HAM504 Professional Production
25 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: Nil  
Teaching methods: Industry placement.  Assessment: Production of a radio program, Short film or Television script.
A subject in the Master of Arts (Communications).

Aims & Objectives
This subject is aimed at students, including those working in the industry, who have above average radio and print media skills. It has three focus areas: radio, writing for the print media, and writing for film and television.

Content
The radio stream consists of a series of seminars dealing with key management issues, including station operations, audience research and analysis, marketing, human resources, the impact of new technology, and broadcast policy issues. Students taking the radio stream may produce broadcast quality programs during the semester. This could be, for example, a major documentary or drama, or a multi-track production which draws on the student’s production, research, and writing skills, as well as their creative ability.
The print stream will focus on advanced investigative reporting and feature writing skills. Students taking the film and television stream will develop a script proposal and a script for a short film or television program.

Recommended Reading

HAM505 Workplace Practice
25 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: Nil  
Teaching methods: Industry placement.  Assessment: Presentation of Workplace Proposal 40%, Final Report 60%.
A subject in the Master of Arts (Communications).

Aims & Objectives
This subject aims to give students in the final stages of the Masters the opportunity to undertake a detailed analysis of the institutional and professional processes of a media organisation. Students can nominate which organisation they wish to be placed in, and they will be required to consult with both industry and educational management when working out the details of the study.

Content
It would be expected that students will produce a detailed case study which addresses issues such as the media model under which the organisation operates, management structures, staffing and human resources, training, technology, target audiences and programming. Students may also negotiate with the media organisation to undertake a consultancy; for example, to research the feasibility of a particular project such as the conversion of radio equipment from analogue to digital, the implementation of a program to increase Aboriginal and Torres Strait Islander employment, or to examine the impact of new broadcast regulations on the organisation.

HAMD506 Thesis (Part-time)
HAM507 Thesis (Full-time)
50 Credit Points  1 Semester full-time, 2 Semesters part-time.  Hawthorn  
Prerequisite: Nil  Teaching methods: Supervision.  Assessment: To be advised.
A subject in the Master of Arts (Communications).

Aims & Objectives
Students are required to write a minor thesis, of approximately 20,000 words, as a mandatory course requirement. The conceptual and methodological underpinning for the thesis will centre on the two core subjects. HAM500 Globalisation: Media and Telecommunications and HAM517 Cultural Convergence, though thesis topics may also emerge from HAM501, HAM502, HAM504 and HAM505. International students will have the opportunity to pursue topics related to their country of origin or explore comparative research subjects.
There may be the possibility of electronic access to national and international databases for research. Supervision of these may be conducted with electronic means to support the supervisory-student interaction.

HAM514 Multimedia Authoring 1
25 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: Nil  
Teaching methods: Lectures, Laboratory sessions.  Assessment: Participation, Project.
A subject in the Master of Arts (Communications).

Aims & Objectives
The aim of this subject is to provide students with competencies in a range of production skills to enable them to use these skills in the production of a stand-alone multimedia project.

Content
Students will be introduced to digital audio production and analogue and digital video recording and editing. They will also be instructed in the use of scanning and image manipulation and animation. As part of this subject, students will also be asked to consider a number of issues relating to multimedia production such as intellectual property and copyright, government policy in regards to multimedia and funding of multimedia production. Attention will also be paid to the presentation and marketing of a multimedia product.

Recommended Reading

HAM515 Multimedia Authoring 2
25 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: HAM514  
Teaching methods: Lectures, Laboratory sessions.  Assessment: Participation, Project.
A subject in the Master of Arts (Communications).

Aims & Objectives
In this subject, students are expected to integrate the skills they have acquired into a multimedia project.
HAM516 Electronic Writing

25 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture and Tutorial • Assessment: Participation, Project, Research Paper.

A subject in the Master of Arts (Communications).

Aims & Objectives

The purpose of this subject is to introduce students to the convergence of print with electronics and to the status of writing in the contemporary world of electronic communication technologies. Far from being outmoded, writing continues to be at the forefront of electronic cultural technologies.

Content

This subject will include consideration of the impact of what computer techniques offer in terms of reading and writing. It offers students the opportunity to consider the most advanced state in the transformation of the word. At the same time, it will focus on the links between traditional forms and conceptions of text, as well as the literacies with which we approach different writing technologies (such as book, hypertext and hypermedia, which combine written words, images and sounds).

Students will access the Internet and will develop writing skills designed for the electronic environment, using authoring and graphics software.

Recommended Reading


HAM517 Cultural Convergence

25 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture and Tutorial • Assessment: Essay and Seminar presentation.

A subject in the Master of Arts (Communications).

Content

This subject is a critical exploration of communications in the transition from print to electronic culture. Focusing on the word as the basic unit of communication, it traces the gradual technologicalising of the word as it moved beyond the immediacy of speech and social community, to the mediation of writing and its initiation of remote telecommunications.

Central to the formation of an electronic culture is the issue of convergence, in which new modes of communication, such as hypermedia, combine formerly discrete forms to create powerful communications environments. Such environments require new literacies, which in turn transform the way in which we construct the world into meaning. Cultural Convergence also seeks to evaluate the impact of new social formations (such as cyber-space) that are being constructed on the basis of these literacies, assessing the degree to which virtual communities are changing the nature of social interaction, and modifying traditional notions of identity, space, location and meaning.

Recommended Reading


McKeich, M., Tofts, D., Memory Trade: A Prehistory of Cyberculture, 21C/ Interface, Sydney, 1998.

HAM524 New Media Production

25 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAM516 • Teaching methods: Workshops and tutorials. • Assessment: Exercises and seminar participation.

A subject in the Master of Arts (Communications).

Aims & Objectives

The aim of this subject is to explore the developing area of designing and writing for the World Wide Web. How do web designers repurpose material from other media in a way that takes advantage of the new medium? What are the characteristics and potentials of the medium which make writing for this environment unique to other media?

Content

Drawing on their expertise in HTML and graphics/sound manipulation acquired in HAM516, students design and construct websites for industry clients.

Recommended Reading


HAM525 Key Cultural Issues in Media and Communication

25 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures and tutorials • Assessment: Class presentations, Participation, Research Paper.

A subject in the Master of Arts (Communications).

Aims & Objectives

This subject aims to explore the cultural ramifications of the new information technologies which have become so integrated in contemporary post-industrial societies. By placing emphasis on the social, political and cultural manifestations inherent in the application of new technologies, this unit aims to challenge widely accepted propositions put forward by both Technological Determinists and Utopians. Students will develop a deeper awareness of the ways in which new technologies in media and communication contributes to ongoing change in the workplace, in educational institutions, in the home and in our conception of leisure.

Content

- An introduction into the world of the virtual: Virtual Relationships, para-social relations, virtual reality and Reality TV.
- Assessing the ideas and arguments presented in Peter Weir’s “The Truman Show”.
- The future of work: surveillance and privacy in the workplace.
- New media coverage of the political process - or - How new media continues to transform the political process in Australia.
- Media manipulations via cable and satellite. A case study of new media coverage of the September 11th terrorist attack on the US.
- Pornography on the Internet. Dennis Altman’s notion of “Global Sex”.
- New media representations of medicine and science. Critique on the role of the Internet.
- New media and communications technologies and the future of educational institutions, practice and pedagogy.

Recommended Reading


HAP526 Communication Environments

25 Credit Points  1 semester  3 Hours per Week  Hawthorn  Prerequisite: Nil  Corequisites: Nil  Teaching methods: Lectures and tutorials  Assessment: Class presentations, Research Paper.

A subject in the Master of Arts (Communications).

Aims & Objectives

This subject deals with what is often relegated to a secondary place - the systematic consideration of the end users in this burgeoning new communications environment. The subject focuses on the need to understand user perspectives rather than technology perspectives, or on the complexities of the demand side of the equation rather than the supply side. In communications services the value chain for users is changing radically. The old paradigms of telecommunications development - "build the networks and they will come," or the paradigm of computing development - "there will always be enough users to fill the increasing bandwidth" - are gone. Now the development of so many innovative communications service perspectives requires that organisations which invest in new communications services ought to undertake greater investigation of people's needs.

Content

- The changing value chain - demand before supply
- The emergent on line economy ie., the Internet and e-commerce.
- New services and applications eg., telehealth, e-education, on line shopping, home banking.
- User methodological issues eg., technology assessment, user demand studies, ratings and audience assessment.
- Changing infrastructure – growth of data services, future of voice, universal services.
- User social dimensions – trust and security, privacy and data control.
- Futures modelling eg., scenario construction and foresight studies of possible economic, social and technological futures.

Recommended Reading


HAP100 Australian Politics

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: Nil  Teaching methods: Lectures and Tutorials  Assessment: Essays, Tutorials.

A subject in the Bachelor of Social Science, Bachelor of Social Science (Psychology), Bachelor of Arts, Bachelor of Arts (Media and Communications) and Bachelor of Arts (Psychology/Psychophysiology).

Aims & Objectives

This subject aims to provide a critical and analytical introduction to the Australian political system and the challenges it faces from globalisation, oppositional social movements and growing discontent among voters.

Content

Students will acquire a body of knowledge about the system of government in Australia. This will include the basic organising principles of the system, the institutions that express those principles and the processes by which voters elect representatives to transfer the people's will into responsible government.

As students move through the subject, it will be apparent that the organising principles of the system do not always deliver their intended outcomes. By examining some contemporary political issues such as citizenship and republicanism, industrial relations, the role of political parties in expressing voters' aspirations and the electoral system's ability to deliver workable parliamentary representation, the subject will test the effectiveness of those principles and assess in general terms how the system is working. It also explores the reasons many citizens have turned away from institutional politics and engaged in political activism through social movements and other organisations in civil society.

The subject will offer a broad, long-term perspective against which students can analyse and interpret not just current policy issues, but the effectiveness of the whole system.

Recommended Reading

Lowell, D.W., et al., The Australian Political System., 2nd Edn. or later, Longman, South Melbourne.

HAP117 International Politics

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: Nil  Teaching methods: Lectures and Tutorials  Assessment: Essay, Tests.

A subject in the Bachelor of Social Science, Bachelor of Arts.

Aims & Objectives

To provide students with an understanding of the major institutions, events and issues in international politics; how political scientists analyse and explain international politics through description, explanation, prediction and prescription; and of the major concepts and theories used in the study of international politics.

Content

The subject provides students with an overview of the development of world politics. It introduces analytical approaches to the subject and explores a broad range of contemporary issues. It deals with the politics of nation states, and the traditional diplomacy and security issues based on them. The subject also deals with the emerging structures of the global political economy and international organisations, and their impact on nation-states. While global in scope, the subject highlights many issues relevant to the conduct of Australian foreign affairs and trade policy.

Recommended Reading


HAP118 Australia Past and Present

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: Nil  Teaching methods: Lectures and Tutorials  Assessment: Oral Class Presentation without Notes and Written Work 1500 words Essay

An elective subject in the Bachelor of Arts; Bachelor of Arts (Media and Communications); Bachelor of Social Science and Bachelor of Social Science (Psychology).

Aims & Objectives

This subject seeks to provide international students with a broad and basic introduction to modern Australia. It assumes minimal knowledge of Australia, and includes two field trips as well as classroom teaching. As well as providing students with such knowledge, the subject is aimed at developing skills in reading, writing and communication in English needed for success in the Australian tertiary education environment.

Content

- Australia: The Natural Environment
- Aborigines and Settlers
- Gold, Self-government and Federation
- Australia in the 20th Century
- Field trip 1: Sovereign Hill
- Immigration, Multiculturalism, and the End of White Australia
- Work and Leisure
- Politics, Parties and People
- Melbourne: A Multicultural City
- Field trip 2: Marvellous Melbourne
- Study Skills for Tertiary Education in Australia
- Researching and Writing Essays and Reports

Recommended Reading

There is no textbook, but students will be provided with a selection of recent articles from the mass media highlighting various aspects of Australian life.

HAP221 Modern Australia

HAP321

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: Nil  Teaching methods: Lectures and Tutorials  Assessment: Essays, Participation.
A subject in the Bachelor of Social Science, Bachelor of Social Science (Psychology), Bachelor of Arts (Psychology/Psychophysiology), Bachelor of Arts (Media and Communications) and Bachelor of Arts.

Aims & Objectives

The subject aims to provide an analytical assessment of the more dramatic developments in the Australian political system during the twentieth century.

Content

This subject explores the patterns of change that have shaped contemporary Australia. It starts by looking at the attempts to build a fairer society at the turn of the century, and at the modern social institutions which emerged from that process. It considers the impact of the Great War, of prosperity in the 1920s and depression in the 1930s and the manner in which wealth and power were shared. It then examines how the experience of those thirty years shaped the grand plans to establish a more just and secure nation after the Second World War. Through a survey of the long post-war boom, it analyses the effects of Australia's relations with its major allies on domestic and foreign policies. The subject concludes with a study of the ways in which recent governments have tried to adapt national interests to a rapidly changing world.

Recommended Reading


HAP228 Globalisation: Transformations in World Politics, Economy and Culture.

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil •
Teaching methods: Lecture, Tutorials • Assessment: Essays, Tests.

A subject in the Bachelor of Arts, Bachelor of Arts (Media and Communications), Bachelor of Social Science.

Aims & Objectives

This subject is designed to give students an understanding of globalisation - the process of widening, deepening and accelerating worldwide economic interconnectedness. It introduces students to the debate between hyperglobalists, sceptics, and transformationists, and subjects their competing claims to empirical testing. It examines the world political and military system, the world economy, the emergence of global mass culture, and the expanding impact of human activity on the global environment. The impact of technological change and expanding markets on society and political institutions are key themes throughout. Special attention is paid to their impact on the viability of the principal form of political organisation in the contemporary world, the nation-state. The subject focuses on the question of whether contemporary forms of globalisation are a continuation of, or intensification of, or a break with, earlier trends.

Knowledge of these issues will be of value to students in understanding public policy debates at both a national and international level, and in understanding the context in which modern business is operating. The subject will develop students' skills in testing arguments against evidence, and in issue-based research.

Content

- The debate on globalisation.
- Global politics: a new order?
- Military power in global politics.
- Global markets: selling everything everywhere.
- Global finance capital: making money by making money move.
- Global production: the role of multinational corporations in the world economy.
- Global labour markets: people on the move.
- The globalisation of culture: McDonald's vs McJihad.
- Global environment impact.

Recommended Reading


HAP229 Politics in Pacific Asia

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil •
Teaching methods: Lectures and Tutorials • Assessment: Level Two - Class Test, Examinations and 2,500 word essay. Level Three - Class Test, Examinations and 2,500 word essay.

A subject in the Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives

Student doing this subject should gain an understanding of the contemporary economic, social and political forces shaping the Pacific Asia region, as well as a grasp of the diversity to be found in the region. They should understand the impact of countries such as the US, China and Japan on the region, and its importance for Australia. They should also develop their skills in comparing and contrasting social and political processes in different countries, in undertaking independent research, evaluating arguments and evidence, and communicating clearly and effectively.

Content

- State forms and political struggles
- Red star over Asia
- The Japanese State
- Independence and State-Building in Southeast Asia
- Politics in Anglo States
- Elite Governance: Bureaucrat, Business and the Military
- Challenging the Political Order: Social Movements
- The Political Economy of the Asia Pacific
- Politics of Welfare Environmental Issues and their Governance
- Savonara to the Strong State: From Government to Governance
- Pressures for Change

Reading Materials

circumstances which have shaped the status of indigenous people in contemporary Australian law, politics and society. Students should also develop skills in evaluating contrasting views on controversial issues according to logic and the available evidence, in undertaking independent research, and in communicating clearly and effectively.

Content
- Contact and conflict: Ideas About Aborigines
- Dispossession on the Frontier
- Assimilation and the Stolen Generations
- The Apology Debate: Aborigines, Islanders and Attitudes to History
- Indigenous Organisations, Part 2: Health, Education and the Media
- Land Rights, Part 1: From Ligiari to Mabo
- Land Rights, Part 2: Wik, The Native Title Act, Indigenous Land Use Agreements
- Reconciliation
- Treaties and Constitutional Reform: International Examples and Australian Possibilities

Reading Materials

HAPM226 Making News and Making Policy: HAPM326 The Media and Politics
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil
Teaching methods: Lectures and Tutorials • Assessment: Projects.
A subject in the Bachelor of Social Science and Bachelor of Arts.

Aims & Objectives
This subject gives students a guide to the structure and process of policy formation by governments in Australia and the direct and indirect ways in which the role of the state is influenced by sources of power within society. Students will gain an understanding of how powerful interests use the media and how ordinary citizens may also influence outcomes. This will give them a sound grasp of the function and responsibilities of media workers in a democratic society, and of the skills ordinary citizens need to intervene effectively in media debates.

Content
This subject provides a guide to the policy-making process in the context of the public context of power, interest and ideas in democratic societies, Policy-making itself has become an increasingly technical process, reliant on the specialist skills of a bureaucratic elite. It is also shaped by prevailing ideas about state, society and markets, about the possibility and means of achieving policy outcomes. This process is influenced by advocacy and public contestion, but to be effective this has to command the same skills as the policy-making elite and be informed by a critical awareness of those prevailing ideas. The media is the essential arena in which policy programs and strategic orientations are shaped and contested. The media itself constitutes a rapidly changing arena whose mastery is crucial for government, powerful private interests and ordinary citizens who seek to influence public acceptance of political programs.

Recommended Reading

HAS100 Sociology 1A (Introductory Sociology)
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil
Teaching methods: Lectures and Tutorials • Assessment: Essay and Examination.
A subject in the Bachelor of Applied Science (Psychology/Psychophysiology), Bachelor of Social Science, Bachelor of Arts and Bachelor of Health Science (Public and Environmental Health).

Aims & Objectives
- To introduce key theories, concepts and debates in Sociology.
- To introduce key principles of social behaviour, institutions and structure.
- To introduce the principles of sociological research.

Content
The sociological perspective: sociological investigation; society; culture; socialisation; social interaction in everyday life; group and organisations; deviance and control; social stratification and social class; race and ethnicity; gender and sexuality.

Recommended Reading

HAS101 Sociology 1B (Social Institutions and Social Change)
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAS100, or with permission from the subject convenor
Teaching methods: Lectures and Tutorials • Assessment: Essay and Examination.
A subject in the Bachelor of Social Science, Bachelor of Arts and Bachelor of Applied Science (Psychology/Psychophysiology).

Aims & Objectives
- To apply sociological theories and concepts to specific fields.
- To develop an understanding of principles of social policy.
- To develop an understanding of family change.
- To develop an understanding of key debates in Australian society concerning social policy and families.
- To develop an understanding of the comparative sociological approach.

Content
This course examines social institutions and social change, with particular reference to the economy, the state and families. The course focuses on Australian social institutions and social change in global perspective. It builds on the concepts and theories introduced in HAS100 Sociology 1A (Introductory Sociology).

Recommended Reading

HAS297 Sexuality, Family and Society
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAS100, HAS101
Teaching methods: Lectures and tutorials • Assessment: Essay and examination.
A subject in the Bachelor of Social Science and the Bachelor of Arts.

Aims & Objectives
- To develop an understanding of changing familial and sexual behaviours and ideologies.
- To develop an understanding of Australian patterns in international context.
- To develop an understanding of family research theories and methodologies.

Content
- Social theory.
- Social history.
- Demography.
- Family formation.
- Sexual behaviour and identity.
- Sexual preference.
- Relationships, marriage and divorce.
- Childbirth and childbearing.
- Family violence.
- Extended kinship and community.
- Comparative social policy.

Recommended Reading
HAS298 Sociology of Deviance and Social Control

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAS100 Sociology 1A and HAS101 Sociology 1B • Teaching methods: Lectures and Tutorials • Assessment: Class presentations, Essay and examination.

A subject in the Bachelor of Social Science and Bachelor of Arts.

Aims & Objectives
- To understand and differentiate between different sociological perspectives used in the analysis of social control.
- To enhance the ability to identify the social policy implications that stem from the application of a sociological perspective to a substantive area.

Content
- Individual and structural functionalist approaches to the study of deviance.
- Theoretical social control.
- Moral panic and the creation of folk devils.
- The social control of crime and criminals.
- Corporate, occupational and organised crime.
- Medicine, illness and deviance.
- Women as survivors & women as offenders.
- The body, regulation & control.
- Control by experts: risk, surveillance and child abuse.
- Disability rights and the politics of difference.

Recommended Reading

HAS300 The New Social Entrepreneurship: Philanthropy, Community and Wealth

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: At least one first year subject in Sociology, Politics, Psychology, Media, Philosophy, Accounting, Economics, Organisational Behaviour or Human Resource Management • Teaching methods: Lectures and Tutorials • Assessment: Essay and Examination.

A Subject in the Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives
- To explore the traditional concepts of charity, philanthropy and community effort, and their place in social and cultural development.
- To understand the forces changing those patterns in contemporary society, and the new concepts of social entrepreneurship and social investment.
- To consider some of the ways in which new forces might be harnessed in the private and public sectors in the development of public policy and in individual behaviour.

Content
At the start of the new millennium, the role of individual generosity (from both rich and poor), community commitment, and corporate and institutional charity is being re-evaluated. This is driven by changing patterns in entrepreneurship, wealth creation and wealth distribution, changing expectations of government; and the emergence of new concepts as corporate citizenship, the triple bottom line, and civil society. This subject is one of the important new areas of learning for those interested in public policy development, business practice, social welfare or personal growth.

Recommended Reading

HAS311 Environment and Population

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: For Sociology Major: HAS100 and HAS101. Other students should contact the convenor. • Teaching methods: Lectures and Seminars, which emphasise student participation • Assessment: Assignments, Examination.

A Subject in the Bachelor of Social Science and Bachelor of Arts.

Aims & Objectives
This subject aims to help students understand the interrelationships between human society and the natural world.

Content
The role of population growth, levels of consumption, and the type of technology used in causing environmental stress; causes of change in fertility and mortality; explanations for high levels of consumption in rich nations; the dual role of technology as both cause and cure for environmental stress.

Recommended Reading

HAS316 Migration and Ethnicity

12.5 Credit points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: For students majoring in sociology, HAS100 and HAS101. Other students should contact the convenor. • Teaching methods: Lectures and seminars emphasising student participation • Assessment: Assignments, Examinations.

A subject in the Bachelor of Social Science and the Bachelor of Arts.

Aims & Objectives
- To expand students’ knowledge of international migration.
- To expand students’ knowledge of, and ability to analyse, the role of immigration in shaping national societies and international relations.
- To help students analyse the role of immigration in relation to ethnicity, culture and personal identity.

Content
- Ethnicity, racism and ethnocentrism.
- Pull and Push factors.
- Case Studies (France, United States, Australia).
- Citizenship and immigration control.
- Pluralism, national identity and globalisation.
- Responding to diversity.
- Borders and Rights.

Recommended Reading

HAS485 The Australian Housing System

12.5 Credit Points • 1 Semester • 4 Hours per Week • Distance Education/Learning • Prerequisite: Either 5 years industry experience or an undergraduate degree in Humanities, Social Science, Business, Architecture or Planning • Teaching methods: Tutorials and weekly modules • Assessment: Assignments.

A subject in the Graduate Certificate of Social Science (Housing Management and Policy).

Aims & Objectives
This subject introduces students to the major defining characteristics of the Australian housing system within a framework of production, consumption, management and exchange. The first part focuses on the factors and processes enabling housing to be physically provided and consumed: tenure, architectural type, land use, finance and production. The second part examines the role of government in provision and management.

Content
- Australian Housing: Key Concepts and Principles.
- The Australian and International Housing Systems.
- The Social Context of Housing.
- Housing Consumers and Consumption.
- Housing Type and Tenure.
- Financing Private Housing.
- The Land Development and House Building Industries.
- The Private Rental Sector and Residential Tenancy Law.
- Organisational Structures: Commonwealth and State/Territory Governments.
- Housing and Local Government.
- Organisational Structures: Community Housing
- Regulation, Redevelopment and Reform.
**HAS486 Housing Policy and Research**

12.5 Credit Points  •  1 Semester  •  4 Hours per Week  •  Distance Education/Learning  •  
Prerequisite: Either 5 years industry experience or an undergraduate degree in Humanities, Social Science, Business, Architecture or Planning  •  Corequisites: Nil  •  
Teaching methods: Tutorials and weekly modules  •  Assessment: Assignments  •  
A subject in the Graduate Certificate of Social Science (Housing Management and Policy).  

**Aims & Objectives**

To introduce the principles and practices of housing policy and research, including identifying and interpreting key data sources, policy design and implementation. Objectives are to provide an introduction to policy making, mechanisms, tools and processes including evaluation implementation and management information.  

**Content**

- Housing Statistics: An Introduction.  
- Housing Statistics 2: Some Data Tools and Methods of Analysis.  
- Housing Statistics 3: Data Presentation.  
- Housing Needs Assessment.  
- Housing Policy  
- The Machinery and Practice of Policy Decision Making.  
- Preparing and Writing Policy Reports.  
- Implementing and Evaluating Policy.  
- The Evolution of Housing Information Systems.  
- New Directions for Housing Information Systems.  

**Reading Materials**

Selected extracts are supplied with the modules.

**HAS487 Housing Management and Administration**

12.5 Credit Points  •  1 Semester  •  4 Hours per Week  •  Distance Education/Learning  •  
Prerequisite: Either 5 years industry experience or an undergraduate degree in Humanities, Social Science, Business, Architecture or Planning  •  Corequisites: Nil  •  
Teaching methods: Tutorials and weekly modules  •  Assessment: Assignments  •  
A subject in the Graduate Certificate of Social Science (Housing Management and Policy).  

**Aims & Objectives**

To provide an overview of managing and administering the public and community sectors. To examine the major management dilemmas and program policy debates currently confronting low income housing providers.  

**Content**

- Low Income Housing Provision.  
- The Reluctant Landlords: The History of Public Housing in Australia.  
- Social Housing Reform.  
- Community Housing Management.  
- Linking Housing with Support Services.  
- Business Planning for Social Housing Agencies.  
- Allocations Policy.  
- Allocations Administration.  
- Rent and Rebate Administration.  
- Asset Management.  
- Financing Social Housing.  
- Arrears Management.  
- Client Service.  

**Reading Materials**

Selected extracts are supplied with the modules.

**HAS488 Housing Economics and Finance**

12.5 Credit Points  •  1 Semester  •  4 Hours per Week  •  Distance Education/Learning  •  
Prerequisite: Either 5 years industry experience or an undergraduate degree in Humanities, Social Science, Business, Architecture or Planning  •  Corequisites: Nil  •  
Teaching methods: Tutorials and weekly modules  •  Assessment: Assignments  •  
A subject in the Graduate Certificate of Social Science (Housing Management and Policy).  

**Aims & Objectives**

An understanding of the economics of housing is fundamental to every sector of the industry. This subject reviews the major economic and financial techniques used in housing analysis and examines key issues in terms of their economic implications.  

**Content**

- Economics, Economists and Economists: An Introduction.  
- Housing Economics: Key Issues and Concepts.  
- Economics of the Public Sector.  
- An Accounting Framework for Social Housing.  
- Assessing Financial Viability.  
- Capital for Social Housing.  
- Developing Social Housing.  
- Home Purchase in Social Housing.  
- Financial Analysis.  
- Discounted Cash Flow and Cost Benefit Analysis.  

**Reading Materials**

Selected extracts are supplied with the modules.

**HAS489 Issues in Housing Provision**

12.5 Credit Points  •  1 Semester  •  4 Hours per Week  •  Distance Education/Learning  •  
Prerequisite: Either 5 years industry experience or an undergraduate degree in Humanities, Social Science, Business, Architecture or Planning  •  Corequisites: Nil  •  
Teaching methods: Tutorials and weekly modules  •  Assessment: Assignments  •  
A subject in the Graduate Certificate of Social Science (Housing Management and Policy).  

**Aims & Objectives**

To gain an understanding of the current issues of importance in housing provision, to focus on housing consumer groups and the links between housing and other key policy areas.  

**Content**

- Homelessness.  
- Aboriginal and Torres Strait Islander Housing.  
- Women and Housing.  
- Disability and Supported Housing.  
- Age Related Housing.  
- Performance Indicators.  
- Tenant Participation in Housing Agencies.  
- Problem Families, Problem Estates.  
- Employment Relations for Social Housing Managers.  
- Team Work in Housing Services.  
- Housing and Health.  
- The Design of Social Housing.  

**Reading Materials**

Selected extracts are supplied with the modules.

**HAS490 Commercialisation of Public Enterprise**

12.5 Credit Points  •  1 Semester  •  4 Hours per Week  •  Distance Education/Learning  •  
Prerequisite: Nil  •  Corequisites: Nil  •  Teaching methods: Tutorials and weekly modules  •  
Assessment: Assignments.

Swinburne University of Technology | Higher Education Handbook 2002
A subject in the Graduate Diploma of Social Science (Housing Management and Policy) and Master of Social Science (Housing Management and Policy).

**Aims & Objectives**
This subject introduces students to the principles of commercialisation of public and community enterprise and the key components involved, as well as the management and governance implications.

**Content**
- Australian Public Sector Management: Changes and Reforms.
- Introduction to Commercialisation.
- Outsourcing.
- Implementing Outsourcing.
- Commercialisation and Client Service.
- State Approaches to Implementing Reform.
- Ethics and Accountability.
- Commercialisation in the Social Housing Context.
- Revaluing Government.

**Reading Materials**
Selected extracts are supplied with the modules.

**HAS492 Urban Social Theory**
12.5 Credit Points • 1 Semester • 4 Hours per Week • Distance Education/Learning
Prerequisite: Graduate Diploma in Social Science (Housing Management and Policy), 12.5 Credit Points • 1 Semester • 4 Hours per Week • Distance Education/Learning
Teaching methods: Tutorials and weekly modules • Assessment: Assignments
A subject in the Master of Social Science (Housing Management and Policy).

**Aims & Objectives**
This subject aims to provide an overview of major social theories used in urban analysis in the twentieth century.

**Content**
- Urban Social Theory.
- Urban Social Theory in Review.
- The Ecologists.
- Behavioural Ecology.
- Neoclassical Economics.
- Weberian Urban Theory.
- Consumption Theory.
- The Political Economy Tradition.
- Urban Political Economy 2.
- Space and Identity.
- Post Modern Urban Analysis and Theoretical Debates.
- Community.

**Reading Materials**
Selected extracts are supplied with the modules.

**HAS493 Property Management**
12.5 Credit Points • 1 Semester • 4 Hours per Week • Distance Education/Learning
Prerequisite: HAS405, HAS406, HAS407
Teaching methods: Tutorials and weekly modules • Assessment: Assignments
A subject in the Graduate Certificate of Social Science (Housing Management and Policy), Graduate Diploma of Social Science (Housing Management and Policy).

**Aims & Objectives**
To provide an overview and increased understanding of the concepts of property markets, their institutional contexts, and the parameters and techniques for management.

**Content**
- Introduction to Property Management.
- Property Law.
- Property Economics.
- Introducing the Property Asset Management Model.
- Asset Creation.
- Asset Management.
- Asset Disposal.
- Managing a Property Portfolio.
- Managing a Property Project.
- Managing Property Services: Running the Business.
- Managing Property Services: Clients, Customers and Stakeholders.
- Ethics.

**Reading Materials**
Selected extracts are supplied with the modules.

**HAS501 Public Health Policy**

**HAS601**
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn
Prerequisite: Nil
Teaching methods: Lecture and tutorial • Assessment: Seminar Paper (40%), Assignment (60%). Extra assessment tasks may be required for OPsych students.
A subject in the Master of Psychology in Health Psychology and the Professional Doctorate of Psychology (Health Psychology).

**Aims & Objectives**
- To develop an understanding and critical awareness of policy issues in the health care system.
- To expose students to different theoretical and ideological perspectives for analysing health policy.
- To examine the contribution sociological analysis can make to the understanding of the health policy process.

**Content**
Topics include:
- Types of Health Care Systems.
- Public Policy Analysis and Health Care.
- Health Funding.
- Community Health Care.
- Mental Health.
- Women’s Health.
- Ageing and Health.
- Prevention and Health Promotion.
Recommended Reading


HASP200 Public Policy in Australia

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures and Tutorials • Assessment: Tutorial Paper and Essay.
A subject in the Bachelor of Social Science and Bachelor of Arts.

Aims & Objectives

To analyse public policy making processes in contemporary Australia.

Content

Major topics covered include:

Technology and Society.
Identity.
Family and Sexuality.
Community.
Organisations.
Democracy.
Surveillance.
Social Theory.

Recommended Reading


HASP300 Research Project

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HASP303 or HASP304 • Teaching methods: Workshops and Practical Assignments • Assessment: Class presentations, research report.
A subject in the Bachelor of Social Science and Bachelor of Arts.

Aims & Objectives

To help students understand the principles involved in carrying out a social research project.
To provide students with practical experience in carrying out an independent research project under supervision.

Content

Students will carry out the research project that they planned in either HASP300 or HASP301. Students selected for the Sociology internship program will conduct the research they are doing for their employer under the auspices of this subject.

Recommended Reading


HASP201 eSociety (Sociology of the Electronic Age)

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Three Stage 2 Sociology or Media subjects • Teaching methods: Lectures and Tutorials • Assessment: Assignments, Examinations.
A subject in the Bachelor of Social Science and Bachelor of Arts.

Aims & Objectives

To develop knowledge of the key electronic technologies.
To develop understanding of the major effects of electronic technologies in society, social institutions and social change.
To develop understanding of the main sociological theories used to explain the development of electronic technology and its social relevance.

Content

Major topics covered include:

Technology and Society.
Identity.
Family and Sexuality.
Community.
Organisations.
Democracy.
Surveillance.
Social Theory.

Recommended Reading


HASP301 Work in Australia

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures and Tutorials • Assessment: Tutorial Paper and Essay.
A subject in the Bachelor of Social Science (Psychology), Bachelor of Arts (Media and Communications), Bachelor of Arts (Psychology/Psychophysiology), Bachelor of Social Science and Bachelor of Arts.

Aims & Objectives

To analyse the politics of work in contemporary Australia.

Content

This subject examines the politics of work, labour markets and employment in Australia. It traces changing occupational patterns, the role of business, government and unions in the industrial relations system and how this interaction has shaped people’s experience of the workplace. It analyses the intersecting influences of gender, ethnicity, class and age on the labour market as well as the impact of globalisation, technological change and employment. A central theme throughout the subject is an exploration of the theories and associated political ideologies that have shaped recent labour market reform.

Recommended Reading


HASP202 Social Theory

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Two Stage 1 Sociology subjects (students majoring in Sociology), one Stage 1 Politics subject (students majoring in Politics), other students to contact the convenor • Teaching methods: Lecture and Tutorials • Assessment: Assignments, Examination.
A subject in the Bachelor of Social Science and Bachelor of Arts.

Aims & Objectives

Effective social research and policy development depends on social theory. This subject is designed to help students consolidate and extend their knowledge of social theory and to explore the ways in which it supports social policy and research.

Content

This subject examines the most influential social theories, their sources in nineteenth century thought and their influence on present-day social thinking. The works of Marx, Weber and Durkheim and contemporary writings which build on their ideas are discussed. Feminist and postmodern theories are also examined, as are theories derived from the new environmental paradigm. Theories are analysed for their core assumptions, ideological foundations and approaches to knowledge. Class discussions are designed to enable students to link these theoretical debates to current social issues and to practical strategies of social research.

Recommended Reading

HASP304 Sociology and Social Policy

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: At least two Stage 2 Sociology or Politics subjects • Teaching methods: Lectures and Tutorials • Assessment: Essays and Exam.

A subject in the Bachelor of Social Science and Bachelor of Arts.

Aims & Objectives

- To expose students to different theoretical and ideological perspectives for analysing social policy.
- To examine the contribution of sociological analysis to the understanding of the policy process.
- To develop students’ abilities to analyse specific policy issues.
- To understand the principles of comparative analysis.

Content

- Comparative analysis.
- The role of the State.
- The politics of Social Policy.
- Key Concepts.
- Income Security.
- Health Policy.
- Education Policy.
- Housing Policy.
- Family Policy.

Recommended Reading


HASP306 Quantitative Research Methods

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: For Sociology majors, HAS100, HAS101, and two second level Sociology subjects, or with permission from the subject convenor • Teaching methods: Lectures and Tutorials • Assessment: Essays, Test and Exam.

A subject in the Bachelor of Social Science and Bachelor of Arts and Bachelor of Health Science (Honours in Public and Environmental Health).

Aims & Objectives

- To develop understanding of quantitative research techniques.
- To develop understanding of quantitative research design and practice.
- To develop understanding of the links between existing research and new research.

Content

- Objectivity and social research.
- Research design and ethics.
- Problems of measurement.
- Questionnaires and structured interview schedules.
- Non-random samples.
- Random samples.
- Secondary data.
- Evaluation research.
- Analysing data.
- Writing research proposals and research reports.

Recommended Reading


HASP307 Qualitative Research Methods

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Corequisites: For Sociology major, HAS100; HAS101, and two second level Sociology subjects, or with permission from the subject convenor • Teaching methods: Lectures and Tutorials • Assessment: Practical Exercises, research proposal and examination.

A subject in the Bachelor of Social Science, Bachelor of Arts and Bachelor of Health Science (Honours in Public and Environmental Health).

Aims & Objectives

- To develop an appreciation of qualitative research.
- To gain a working familiarity with a range of qualitative research methods used in social research.
- To design a qualitative research project.

Content

- The foundation of qualitative research.
- The ethics, politics and design of qualitative research.
- In-depth interviews.
- Focus Groups.
- Unobtrusive methods - historical and cultural research.
- Narrative analysis and life history.
- Memory-work.
- Ethnographic fieldwork.
- Writing research proposals and research reports.
- Analyzing qualitative data.
- Action research.

Recommended Reading


HAT116 Linguistics

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture and Tutorial (Attendance at lectures is mandatory). • Assessment: 2 Assignments, Essay, Weekly readings and exercises.

A subject in the Bachelor of Arts and Bachelor of Business.

Aims & Objectives

This subject introduces some of the basic concepts involved in the study of language. It is essentially concerned with the nature of language and how language makes meaning. Many languages are examined, particularly those with which students in the subject are familiar. Knowledge of another language is not required.

Content

In this subject, basic linguistic concepts are introduced which are necessary to the understanding of the mechanics of language. The topics studied include sound systems of human speech, the combination of sounds into words, the rules for combining words into sentences, the study of meaning, the role of discourse and language usage within a social system. Although most of the examples are taken from the English language, their applicability to Japanese, Korean, Italian and other languages is also explained. Students undertaking foreign language majors are highly recommended to include this subject in their course. It is also available to students not studying languages.

References


HAT119 Academic Communication Skills

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Workshops and Tutorials • Assessment: Continuous, Essays, Journal, Classwork.

A subject in the Bachelor of Arts and Bachelor of Social Science.

Aims & Objectives

This subject is designed specifically for international students, focusing on academic skills which aid the transition to Australian tertiary academic life.

Content

The course incorporates classes in advanced reading, research techniques, essay writing, discussion skills, analysis and criticism. These skills are taught within a framework of English as a second language. The subject examines cultural issues and values in an Australian setting. It also seeks to orient students to different disciplinary thinking by viewing these themes from different subject perspectives. It incorporates
guest lecturers, language support, and a forum for problem solving for students new to Australian academic expectations.

**Recommended Reading**

**HAY160 Mandarin Chinese for Native Speakers of Cantonese 1A**
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Full competence in written Chinese • Teaching methods: Classwork (writing, conversation, pronunciation) • Assessment: Mid Semester Test, Final Examination, Class Performance.
A subject in the Bachelor of Business and Bachelor of Arts.

**Aims & Objectives**
This subject, offered as an elective, is designed specially to provide speakers of Cantonese with competence in spoken Mandarin Chinese. Students admitted to the program are expected to be fully competent in written Chinese.

**Content**
The coursework is based on a variety of unabridged texts (academic, business and similar) to provide training in Mandarin Chinese pronunciation and appropriate Mandarin Chinese vocabulary. Training is also given in writing the simplified Chinese script.

**References**

**HAY161 Mandarin Chinese for Native Speakers of Cantonese 1B**
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Full competence in written Chinese • Teaching methods: Classwork (writing, conversation, pronunciation) • Assessment: Mid Semester Test, Final Examination, Class Performance.
A subject in the Bachelor of Business and Bachelor of Arts.

**Aims & Objectives**
This subject, offered as an elective, is designed specially to provide speakers of Cantonese with competence in spoken Mandarin Chinese. Students admitted to the program are expected to be fully competent in written Chinese.

**Content**
The coursework is based on a variety of unabridged texts (academic, business and similar) to provide training in Mandarin Chinese pronunciation and appropriate Mandarin Chinese vocabulary.

**References**

**HAY100 Psychology 100**
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Corequisites: HMA103 • Teaching methods: Lectures and Tutorials • Assessment: Examinations, Laboratory reports & Essay.
A subject in the Bachelor of Social Science (Psychology), Bachelor of Social Science, Bachelor of Arts (Psychology/Psychophysiology), Bachelor of Arts, Bachelor of Arts (Media and Communications), Bachelor of Applied Science (Psychology/Psychophysiology) and Bachelor of Applied Science (Psychology/Biochemistry).

**Aims & Objectives**
Psychology 100 and Psychology 101 are designed to introduce students to the content and method of psychology.

**Content**
Topics include: psychology as a science, ethics in research, biological foundations of behaviour, sensation, perception and consciousness, emotion and learning.

**Recommended Reading**
Students wishing to familiarise themselves with concepts in psychology could read any recent introductory psychology text available from most regional libraries. The text for assignments: How to Write Psychology Laboratory Reports and Essays, by Bruce Findlay, is highly recommended. Further details will be provided in the first lecture.

**HAY101 Psychology 101**
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAY100 • Corequisites: HMA103 • Teaching methods: Lectures and Tutorials • Assessment: Examinations, Laboratory reports.
A subject in the Bachelor of Social Science (Psychology), Bachelor of Social Science, Bachelor of Arts (Psychology/Psychophysiology), Bachelor of Arts, Bachelor of Applied Science (Psychology/Psychophysiology) and Bachelor of Applied Science (Psychology/Biochemistry).

**Aims & Objectives**
This subject concentrates on various aspects of cognition such as memory, language and intelligence. Other topics covered include personality, sexuality, stress and coping and psychopathology. Students are also introduced to social and developmental psychology.

**Recommended Reading**
Students wishing to familiarise themselves with concepts in psychology could read any recent introductory psychology text available from most regional libraries. Details will be provided in the first lecture.

**HAY205 Cognition and Human Performance**
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAY100, HAY101 and HMA278 • Teaching methods: Lectures, Tutorial/Practical sessions, and Project work • Assessment: Practical Report, Examination.
A subject in the Bachelor of Arts (Psychology/Psychophysiology), Bachelor of Social Science (Psychology), Bachelor of Applied Science (Psychology/Psychophysiology), Bachelor of Social Science, Bachelor of Arts and Bachelor of Applied Science (Psychology/Biochemistry).

**Aims & Objectives**
The aim is to provide up-to-date coverage of recent theoretical and methodological advancements in cognitive psychology.

**Content**
This subject examines theories of cognitive functioning and processes, including perception, attention, memory, action, categorisation, language, problem-solving and decision making. Some contemporary issues and theoretical applications will also be considered.

**Recommended Reading**

**HAY206 Developmental Psychology**
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAY100 and HAY101 • Corequisites: HMA278 • Teaching methods: 2 hour lecture, 1 hour laboratory session • Assessment: Examinations, Reports.
A subject in the Bachelor of Social Science (Psychology), Bachelor of Social Science, Bachelor of Arts (Psychology/Psychophysiology), Bachelor of Applied Science (Psychology/Psychophysiology), Bachelor of Arts; Bachelor of Arts (Media and Communications) and Bachelor of Applied Science (Psychology/Biochemistry).

**Aims & Objectives**
Developmental Psychology aims to understand the processes involved in psychological growth and change with age. The focus is on social, emotional, cognitive and language development during the early periods of life from infancy and childhood through to adolescence.

**Content**
Topics include: biological foundations of the person, prenatal influences on development, the birth process, and children's earliest behaviour, examination of interactions between children and their caregivers and the development of their perceptual, social and emotional abilities, development of cognitive and language skills, and their powerful influence on all aspects of children's behaviour; development of personality and gender identity and the role played by the family, school, the media and peers in the socialisation of children. Throughout the course, the focus is on theoretical approaches to child development, with a thematic approach as opposed to a chronological approach.

**Recommended Reading**
HAY208 Cognition and Human Performance
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Tutorial/Practical sessions and Project Work. • Assessment: Practical Examination.
A subject in the Bachelor of Arts and Bachelor of Social Science. Note: this subject is only available to students completing the Electronic Society major.
Aims & Objectives
This subject examines theories of cognitive functioning and processes, including perception, attention, memory, action, categorisation, language, problem-solving and decision making. The aim is to provide up-to-date coverage of recent theoretical and methodological advancements in cognitive psychology.
Content
Students will be introduced to the three major perspectives that define current cognitive psychology: experimental cognitive psychology, cognitive science, and cognitive neuropsychology. In addition, some contemporary issues and applications of the theories will be considered.
Recommended Reading

HAY307 Social Psychology
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAY100, HAY101, HMA278, HMA279 and one of HAY205 or HAY206 • Teaching methods: Lectures and Tutorial/Practical sessions • Assessment: Examination, Practical Report.
A subject in the Bachelor of Social Science, Bachelor of Social Science (Psychology), Bachelor of Arts (Psychology and Psychophysiology), Bachelor of Applied Science (Psychology/Psychophysiology), Bachelor of Arts and Bachelor of Applied Science (Psychology/Biochemistry).
Aims & Objectives
This subject involves the scientific study of behaviour in a social context. The aim is to introduce students to the key theories and research methods used by social scientists to explain peoples’ thoughts, feelings and actions in social situations.
Content
The course covers the history, methods and ethics of social psychology and the areas of social cognition, attributions, attitudes, prejudice and stereotypes, social influence, attraction and relationships, and group processes. Some areas to which social psychological knowledge is often applied, such as culture, health, and law, are also covered.
Recommended Reading

HAY308 The Psychology of Personality
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAY100, HAY101, HMA278, HMA279 and one of HAY205, HAY206 • Teaching methods: Lectures and Tutorials • Assessment: Examinations, Practical Report.
A subject in the Bachelor of Social Science (Psychology), Bachelor of Social Science, Bachelor of Applied Science (Psychology/Psychophysiology), Bachelor of Arts (Psychology and Psychophysiology), Bachelor of Arts and Bachelor of Applied Science (Psychology/Biochemistry).
Aims & Objectives
This subject focuses on the behaviour and experience of the individual as a whole person. Theory and research in other fields of psychology such as development, social interaction, learning, motivation, cognition, and emotion are considered from the viewpoint of integrating these contributions to increase our understanding of ourselves and others as persons.
Content
Four major perspectives on personality are examined: psychodynamic, dispositional, environmental and representational. Issues such as methods of personality assessment and research strategies are also considered.
Selected contemporary issues are also examined, including developments in areas such as psychodynamic theory and cognitive, social and narrative views of self.

Recommended Reading

HAY309 Psychological Measurement
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HMA279 or HMA378 • Teaching methods: Lectures and Laboratory work • Assessment: Research project, Examinations.
A subject in the Bachelor of Social Science (Psychology), Bachelor of Social Science, Bachelor of Arts (Psychology/Psychophysiology), Bachelor of Arts; Bachelor of Applied Science (Psychology/Psychophysiology), Bachelor of Arts (Media and Communications) and Bachelor of Applied Science (Psychology/Biochemistry).
Aims & Objectives
The aim of this subject is to provide students with an understanding of the theories and methods of psychological testing.
Content
Theories and methods of assessing psychometric properties of psychological tests: test construction, administration and scoring of tests; evaluating the reliability and validity of tests; how to interpret test results according to norms and standard scores.
Recommended Reading

HAY321 Abnormal Psychology
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisites: HAY100, HAY101, HMA278, HMA279, and one of HAY205, HAY206 • Teaching methods: Lectures and Tutorials • Assessment: Essays, Examinations, Class presentations.
A subject in the Bachelor of Social Science, Bachelor of Arts and Bachelor of Applied Science (Psychology/Psychophysiology).
Aims & Objectives
The subject is designed to introduce students to the ways in which human behavioural patterns have been conceptualised as ‘abnormal’ or dysfunctional. In examining such abnormal behaviours, students are introduced to major systems of classifying mental disorders, in particular the multiaxial system adopted in DSM-IV. The course focuses on major examples of psychological disorders in terms of their phenomenology and nosology, as well as theories about aetiology.
Content
The general approach taken to understanding disorders is multidimensional, seeking to integrate information from biological, socio-cultural and psychological research. Specific disorders examined may include: schizophrenia; affective disorders; anxiety disorders; eating disorders; substance related disorders; disorders first diagnosed in childhood and adolescence; dissociative disorders; intellectual disability and personality disorders. Additional topics covered may include suicide, violent behaviours, mental disorders and the law.
Recommended Reading

HAY444 Foundations of Counselling
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures and tutorials • Assessment: Practical Examination.
A subject in the Graduate Diploma of Social Science (Human Services - Counselling).
Aims & Objectives
The aim of this subject is to provide students with knowledge of counselling theory, practice, and counselling skills training.
Students are encouraged to develop their awareness of the impact of attitudes, beliefs, and ideologies in the counselling process and to improve their interpersonal communication skills accordingly.
The emphasis of the subject is on experiential learning, providing students with the opportunity to acquire skills which will enable them to be helpful to people experiencing concerns about a variety of issues.
Content
Topics include:
- Introduction to Counselling
- Effective helping; basic skills.
- Listening and attending.
- Empathy and relationship building.
- The initial interview.
- Interventions; behavioural, cognitive-behavioural, affective, systems and groups.

Recommended Reading

HAY445 Ethical and Social Issues for Counsellors

12.5 Credit Points  • 1 Semester  • 2 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Seminars  • Assessment: Case Studies.
A subject in the Graduate Diploma of Social Science (Human Services - Counselling).

Aims & Objectives
The aim of this subject is to examine ethical and social issues which confront the counsellor working in Human Services. Drawing on the ethical codes of several professions (eg. psychologists, social workers and nurses) this subject emphasises awareness and application of good ethical principles and procedures. Because the students in this program are not necessarily affiliated with any professional organisation, particular emphasis is placed on establishing a personal code of conduct and the difficulties that can arise when the practices of the individual workplace contradict that code. Case studies and discussion are used to exemplify these ethical dilemmas.

Content
Topics include:
- Ethical principles; competence, integrity, respect for dignity, beneficence / maleficence, social responsibility.
- Values in the counselling process.
- Ethical decision making.
- Confidentiality.
- Report writing/record keeping.
- Managing boundaries and multiple relationships.
- Multicultural issues.
- The Counsellor in the community.

Recommended Reading
Other reading will be recommended throughout the semester.

HAY446 Advanced Counselling: Assessment and Behaviour Change

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HAY444, HAY445  • Teaching methods: Lectures and Tutorials  • Assessment: Practical Examination, Report.
A subject in the Graduate Diploma of Social Science (Human Services - Counselling).

Aims & Objectives
This course is designed to build on the curriculum provided in Foundations of Counselling and introduces a range of issues and life problems to which counselling interventions can be applied. The course aims to:
- Increase students’ understanding of the process of change and stability within the human psyche and apply it to themselves and their counselling activity.
- Increase students’ knowledge of assessment processes.
- Increase students’ knowledge of support services and resources recommended for different issues/client types.

Content
Topics include:
- Microskills review, map counselling process.
- Empathic attunement, tracking, therapeutic alliance.
- The role of emotion, cognition and behaviour.
- Hearing the story - assessment.
- Goals, contracts and change/stability.
- Emotion and affective interventions.
- Teaching emotional self-regulation.
- Cognitive interventions.
- Behavioural interventions.
- Termination, resources and referral.
- Review and special concerns.

Recommended Reading

HAY447 Issues for Special Population Groups

12.5 Credit Points  • 1 Semester  • 2 Hours per Week  • Hawthorn  • Prerequisite: HAY444, HAY445  • Corequisite: HAY446  • Teaching methods: Seminars  • Assessment: Assignments.
A subject in the Graduate Diploma of Social Science (Human Services - Counselling).

Aims & Objectives
This subject provides a theoretical background for the experiential work covered in Advanced Counselling. Students are introduced to a number of special issues related to working with clients from different cultures and at different developmental stages. The subject aims to prepare students to apply their counselling skills in a variety of settings and problem areas.

Content
Topics include:
- Assessing client problems.
- Assessment with children.
- Assessment with couples and families.
- Multicultural issues.
- Strategy selection.
- The termination stage.

Recommended Reading

HAY448 Special Application Subject: Trauma, Loss and Grief

25 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Lectures and Tutorials  • Assessment: Assignments, Practical Examination.
A subject in the Graduate Diploma of Social Science (Human Services - Counselling).

Aims & Objectives
This subject provides students with the skills necessary to assess and help those suffering from Post-traumatic stress disorder (PTSD) and grief and bereavement issues. Students are trained in debriefing techniques and exposed to the extensive literature and practice of loss and grief counselling.
Content

The course confronts the fear of mortality, promoting self-awareness and self-nurturing in carers, recognising fear, anxiety and anger in those who have been abused or suffered grief. It also develops the skills necessary to help others work through this process. Students are also taught to recognise that many professionals whose job involves working with trauma - police, fire, ambulance and medical staff and others - can themselves become traumatised and adequate support is essential to prevent secondary traumatisation from occurring in these industries.

Recommended Reading


HAY449 Special Application Subject: Addiction Counselling

25 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures and Tutorials • Assessment: Assignment.

A subject in the Graduate Diploma of Social Science (Human Services - Counselling).

Aims & Objectives

This course introduces students to the specialised counselling areas of smoking and alcohol abuse, drug abuse, eating disorders, gambling and other addictive behaviours. It describes the history of theories of addictive behaviours and the shift from a disease model of addiction to the social learning theory perspective. The course discusses the stages of addiction in the context of this model and examines the similarities and differences between addictive behaviours. There is an emphasis on the wide variety of treatment approaches applied to these problems and the evaluation of their effectiveness. This is reinforced by inviting guest lecturers to speak on a number of specialist treatment areas.

Content

Topics include:

- What is an addiction?
- Smoking.
- Alcohol.
- Eating and caffeine.
- Prescription drugs.
- Illegal drugs.
- Gambling and other behavioural addictions; eg. Exercise, work, sex, shopping.

For each topic area the course will look at: initiating and maintaining the behaviour, the client/agency type or the nature of work involved. In addition to being supervised on the job, students may meet regularly with a supervisor from Swinburne University for group case meetings.

HAY452 Thesis A

25 Credit Points • 1 Semester • 2 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Mini conference participation, regular meetings with students’ thesis supervisor • Assessment: Class Presentations.

A subject in the Postgraduate Diploma of Psychology and the Bachelor of Arts (Honours) Psychology stream.

Aims & Objectives

This subject aims to advance students’ understanding of research methods in psychology, with special emphasis on current research tools and techniques. It also aims to facilitate students to design and develop their 4th year thesis project.

Content

After an introductory lecture that provides an overview of research process and different research paradigms, workshops will familiarise students with the theoretical background to a wide variety of research designs and analytical tools that are currently available for basic and applied researchers, including meta-analysis, structural equation modelling, and qualitative designs. The goal is to gain a basic understanding of these methods and to consider possible ways to use these methods in students’ own research. In order to pass the subject, students are also required to present their thesis project at the mini-conference.

Recommended Reading


Research Ethics.

The conduct of the research overall must conform in all respects to the principles of
Correctly implemented in a systematic manner.
Generally recognised within the field of psychological research as sound and
procedures used must be:
diversity of potential topics for investigation, the methodology and data analysis
reporting of the data. While flexibility in methodology is clearly required, given the
every phase of the project from initial planning to final analysis, interpretation and
analysis of data sets, archival research. The individual student must plan and carry out
The research project may take any one of a number of forms: controlled observations,
thesis.
Each student is required to formulate individually an empirical research question, design
Completion of an individual research project.

HAY455  Applied Social Psychology

12.5 Credit Points  1 Semester  2 Hours per Week  Hawthorn  Prerequisite: Nil
Teaching methods: Lectures, Seminars and Student Presentations.  Assessment:
Assignments, Report.
A subject in the Bachelor of Arts (Honours) - Psychology stream and the Postgraduate
Diploma of Psychology.

Aims & Objectives
The aim of this subject is to examine classic and contemporary applications of social
psychological theories and methods in relation to social issues.

Content
This subject critically examines the application of social psychological theories,
methods, and measures to selected areas of psychological research, including health
behaviour, coping with illness, cross-cultural issues, life span development and forensic
psychology.

Recommended Reading

HAY456  Thesis B
HAY460

25 Credit Points  1 Semester  1 Hour per Week (consultation with supervisor).  Hawthorn
Prerequisite: Nil.  Teaching methods: Individual consultation with
A subject in the Postgraduate Diploma of Psychology and the Bachelor of Arts (Honours)
Psychology stream.

Aims & Objectives
Completion of an individual research project.

Content
Each student is required to formulate individually an empirical research question, design
an appropriate study, collect and analyse data, interpret these data in relation to the
original research question, and submit a report on the investigation in the form of a
thesis.
The research project may take any one of a number of forms: controlled observations,
case studies, field surveys, laboratory experiments, field experiments, secondary
analysis of data sets, archival research. The individual student must plan and carry out
every phase of the project from initial planning to final analysis, interpretation and
reporting of the data. While flexibility in methodology is clearly required, given the
diversity of potential topics for investigation, the methodology and data analysis
procedures used must be:
Generally recognised within the field of psychological research as sound and
appropriate for the particular question.
Correctly implemented in a systematic manner.
A member of the Psychology Discipline, or an affiliate of the Psychology Discipline will
be assigned to supervise the research. Supervisor and student will be expected to meet
regularly for consultation according to a mutually agreed timetable.
The conduct of the research overall must conform in all respects to the principles of
research ethics stated in the School of Social and Behavioural Sciences’ Statement of
Research Ethics.

Recommended Reading
Australian Psychological Society, Code of Ethics, Australian Psychological Society,

HAY457  Ethical and Professional Issues

12.5 Credit Points  1 Semester  2 Hours per Week  Hawthorn  Prerequisite: Nil
Teaching methods: Lectures and Tutorials  Assessment: Essays 40%, Tests 60%.
A subject in the Postgraduate Diploma in Psychology and the Bachelor of Arts (Honours)
Psychology stream.

Aims & Objectives
The aim is to introduce students to the essential elements of ethical and professional
practice in psychology.

Content
Topics will be selected from the following list:
Psychology as a profession.
Requirements for registration in the State of Victoria and for membership of the
Australian Psychological Society.
Confidentiality.
Boundary issues.
Dual role relationships.
Cross cultural issues.
Confidentiality.
Report writing and supervision.
Ethical decision making.
Psychology and the law.

Recommended Reading
Koocher, G.P., Keith-Spiegel, P., Ethics in Psychology: Professional Standards and Cases.,

HAY458  Counselling Psychology

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: Nil
Teaching methods: Lectures and Tutorials  Assessment: Assignments, Examinations.
A subject in the Postgraduate Diploma of Psychology and the Bachelor of Arts (Honours)
Psychology stream.

Aims & Objectives
This subject introduces students to major contemporary methods of counselling
including psychodynamic family systems, existential and cognitive behavioural
frameworks. Students also develop basic skills in counselling, microskills and
counselling processes, including empathy.

Content
Contemporary theory and research in counselling psychology.
Models of training in counselling and interviewing.
Experiential training in counselling.
Counselling service delivery systems.
Evaluating and monitoring counselling service programs.
Contemporary theory and practice in small group psychology; group facilitation
skills.

Recommended Reading

HAY530  Counselling Theory and Skills
HAY630

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: Nil
Teaching methods: 1x1 hr lecture, 1x2 hr seminar/workshop/skills practice.
Assessment: Practical Examination. Extra assessment tasks may be required for
DPsych students.
A subject in the Master of Psychology in Counselling Psychology, Master of Psychology in Health Psychology, Professional Doctorate of Psychology (Counselling Psychology) and Professional Doctorate of Psychology (Health Psychology).

Aims & Objectives
This subject is intended to consolidate students’ existing counselling-related knowledge and skills and extend students’ understanding of key theories and concepts in counselling psychology. The second aim is to develop a high level of skill in those help-intended communication behaviours seen as fundamental to effective interpersonal helping. The third aim is to develop a basic level of competence in selected intervention techniques used frequently by counselling psychologists.

Content
Topics include:
- The development of counselling and counselling psychology.
- Models of the counselling process.
- Developing competence in counselling skills.
- Assessment, problem conceptualisation, selected interventions.
- Introduction to solution focussed, interpersonal and cognitive-behavioural interventions.

Recommended Reading

HAY631 Foundations of Health Psychology

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures and Seminars • Assessment: Essays and examinations. Extra assessment tasks may be required for DPsych students.

A subject in the Master of Psychology in Health Psychology and the Professional Doctorate of Psychology (Health Psychology).

Aims & Objectives
The aim of this subject is to provide students with an overview of research and practice in health psychology. The role of a health psychologist in the promotion and maintenance of health, and the prevention and treatment of illness will be addressed, with particular attention to assessment and intervention strategies which focus on the social, emotional, cognitive and behavioural correlates of specific illnesses.

Content
Topics include:
- Conceptual Models of Health and Illness.
- Biological Foundations of Health and Illness.
- Psychological Foundations of Health and Illness.
- Social Foundations of Health and Illness.
- The Role of Stress.
- Promoting Health, Preventing Illness.
- Biopsychosocial Approaches to Prevention and Treatment of Health Problems.

Recommended Reading
Bennett, P., Murphy, S., Psychology and Health Promotion, Open University Press, Buckingham, UK, 1997.

HAY532 Human Services Research and Evaluation

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: 1 hr lecture, 2 hr seminar • Assessment: Class presentations, Research Paper. Extra assessment tasks may be required for DPsych students.

A subject in the Master of Psychology in Counselling Psychology, Master of Psychology in Health Psychology, Professional Doctorate of Psychology (Counselling Psychology) and Professional Doctorate of Psychology (Health Psychology).

Aims & Objectives
The aim of this course is to build upon research design and analysis skills acquired during undergraduate study and to apply these skills to the evaluation of human services. The course will introduce you to major aspects of program evaluation. It will show you how to plan an evaluation, take into account the interests of various stakeholders, develop appropriate research designs and measures, including use of both quantitative and qualitative methods, in order to conduct various types of evaluations.

Content
Topics include:
- Research design in field settings.
- Measurement in human services research.
- Qualitative research methodologies.
- Meta-analysis.
- Program evaluation methods and designs.
- Collecting and analysing evaluation data.
- Reporting research.

Recommended Reading

HAY633 Health Placement A1

HAY634 Health Placement A2

12.5 Credit Points • 1 Semester per subject • Hawthorn • Prerequisite: HAY530/HAY630. HAY533 is a prerequisite for HAY534, HAY633 is a prerequisite for HAY634. • Teaching methods: workshops and supervision sessions • Assessment: Continuous. Subjects in the Master of Psychology in Health Psychology and Professional Doctorate of Psychology (Health Psychology).

Aims & Objectives
An understanding of biopsychosocial stress-health processes is a core knowledge area, and the management of stress is a core skill, fundamental to the professional practice of health psychology. This internal, double placement at the Centre for Psychological Services provides training in the use of psychophysiological stress monitoring equipment, and experience in the application of biofeedback and cognitive-behavioural stress management techniques to assess, prevent and treat clients’ stress-related health problems.

Content
Placement A1 provides supervised training in the techniques and applications of biofeedback and stress management. Placement A2 provides supervised practical experience using these techniques. Client services are provided at the Centre for Psychological Services, where students will see individual clients and run group programs.

Recommended Reading

HAY535 Diagnosis, Treatment and Referral

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAY530/HAY630. HAY535/HAY635 Teaching methods: Weekly Seminars • Assessment: Project. Extra assessment tasks may be required for DPsych students.

A subject in the Master of Psychology in Counselling Psychology and Professional Doctorate of Psychology (Counselling Psychology).

Aims & Objectives
This course is designed to develop an understanding of the use of psychological tests as an aid to diagnosis, the treatment of common psychological problems and the circumstances in which referral is appropriate.

Content
Specific topics may include:
- DSM-IV and ICD-10.
- Children and educational assessment.
- Ancillary tests.
• Treatment of domestic and sexual abuse.
• Trauma and critical incident debriefing.
• Substances dependency.
• Loss and grief.

Cross-cultural issues.

Recommended Reading

HAY536 Culture, Gender and Health

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil
Teaching methods: Lecture and Workshop • Assessment: Workshop and Grant Applications. Extra assessment tasks may be required for DPsych students.

A subject in the Master of Psychology in Health Psychology and Professional Doctorate of Psychology (Health Psychology).

Aims & Objectives
The aim of this subject is to highlight health issues which are specific to certain gender and culture groups. Social and psychological factors, as well as physical factors, play an important role in men's and women's reproductive and sexual health. Likewise, a mix of biopsychosocial factors influences the health of specific cultural groups within Australian society. This course will examine the special needs of these groups and highlight areas where psychologists can provide expertise to help tackle specific health problems.

Content
Topics include:
• Gender Issues in Health.
• Men's and Women's Sexual Health.
• Women's and Men's Reproductive Health.
• Gay and Lesbian Health.
• Cross-Cultural Issues in Health.
• Ethnicity and Health Care.
• Immigrant Health.
• Aboriginal Health.

Recommended Reading

HAY537 Counselling Applications

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAY536/HAY630 • Teaching methods: Seminar • Assessment: Assignments. Extra assessment tasks may be required for DPsych students.

A subject in the Master of Psychology in Counselling Psychology and Professional Doctorate of Psychology (Counselling Psychology).

Aims & Objectives
This subject follows on from Counselling Theory and Skills. It introduces students, in a workshop context, to important topics in counselling psychology practice, in preparation for students' supervised practice and subsequent independent practice.

Content
Topics may include: Application of counselling techniques to selected client-problems e.g. depression, anxiety, anger, interpersonal skill deficits, crisis counselling, substance abuse, post-traumatic stress, marital and family conflict, child abuse.

Other issues that may include:
• Cross-cultural issues in counselling.
• Special issues in client assessment: level of risk of suicidal or violent behaviour, physical illness.
• Supervision models of supervision, supervision skills.
• Consultation.
• Community based interventions.

Recommended Reading

HAY538 Aspects of Professional Practice

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil
Teaching methods: 1x1hr Lecture, 1x2hr Seminar/Workshop. • Assessment: Reports. Extra assessment tasks may be required for DPsych students.

A subject in the Master of Psychology in Counselling Psychology and Professional Doctorate of Psychology (Counselling Psychology).

Aims & Objectives
The aim of the subject is to consolidate the knowledge and skills gained by students during their supervised practice in order to transfer this knowledge and skill to psychological practice after graduation.

Content
A series of topics will be covered in seminar format. They will cover areas such as:
• Employee Assistance Programs.
• Family and work balance.
• Stress and burnout.
• Mental health and community agencies.
• Supervising and being supervised.
• Consultation skills.
• Ongoing professional development, and independent practice.
• Communication and public relations.
• Psychology and contemporary social issues.
• Intercultural and minority group issues.

Recommended Reading

HAY539 Psychological Assessment

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil
Teaching methods: Seminar • Assessment: Assignment & Practical Examination. Extra assessment tasks may be required for DPsych students.

A subject in the Master of Psychology in Counselling Psychology, Master of Psychology in Health Psychology, Professional Doctorate of Psychology (Counselling Psychology) and Professional Doctorate of Psychology (Health Psychology).

Aims & Objectives
This subject builds upon knowledge of psychometrics gained from undergraduate study and is intended to equip graduates with skills in a selection of psychological assessment procedures.

Content
Topics may include:
• A review of the foundations of psychological assessment including reliability, validity.
• Procedures for establishing and improving the reliability and validity of assessment procedures.
• The assessment interview and Psychodiagnostic Systems (eg. DSM-IV).
• Assessing abilities including the use of WISC-3 and WAIS-3.
• Self-report and projective measures of personality functioning (e.g. MMPI-2).
• Conceptualising client and social system dynamics.
• Reporting psychological assessments.

**Recommended Reading**

**HAY540**  
Counselling Placement A1

**HAY640**  
Counselling Placement A2

**HAY641**  
Counselling Placement B2

12.5 Credit Points • 50 Work Days for Masters students, 75 Work Days for DPpsych students • Hawthorn • Prerequisite: HAY530/HAY630, HAY450 is the prerequisite for HAY540, HAY450 is the prerequisite for HAY640 • Teaching methods: Workshops and supervision sessions • Assessment: Continuous

**Aims & Objectives**

These practica are concerned primarily with helping students to make the transition from the counselling laboratory to the counselling practice setting. Initially, new students will be allocated to clients at the Swinburne Centre for Psychological Services. In addition, students will participate in the administration of the Centre and in dealing with telephone enquiries to the Centre.

Students will be allocated clients in accordance with their existing levels of counselling skills, their professional skills and their professional interests. A normal case load will be four clients per week. Students will be expected to see a mixture of child, adolescent and adult clients and to gain experience in working with groups and families as well as individuals.

A supervisor will be appointed and will meet weekly with the student for supervision. The supervisor will be an associate of the Centre. Students will also meet once a month in a small group supervision session to discuss their clients. Each student will be required to present a report on a case for discussion by the group. In addition, each student will write a comprehensive case summary after termination with each client.

For Masters, the 50 work days must include 100 hours of client contact. For DPpsych, the 75 work days must include 150 hours of client contact. Students will be evaluated by the supervisor(s) most directly associated with their work, together with the coordinator. Performance will be reviewed mid-way through the internship and an evaluation made at the end.

**HAY543**  
Professional, Ethical & Legal Issues

12.5 Credit Points • 1 Semester • 10 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures and seminars • Assessment: Case Studies, Examinations. Extra assessment tasks may be required for DPych students.

A subject in the Master of Psychology in Counselling Psychology, Master of Psychology in Health Psychology, Professional Doctorate of Psychology (Counselling Psychology) and Professional Doctorate of Psychology (Health Psychology).

**Aims & Objectives**

This course is designed to ensure that students understand the ethical and legal responsibilities of psychologists working in the human services. Through study of the ethical standards of the profession and legal issues related to the practice of psychology, students will learn about the process of ethical and professional decision making.

**Content**

Topics covered will include the regulation of psychological practice through professional associations and registration boards, the influence of values on ethical practice, limitations on confidentiality, who is the client, report writing, dual role relationships, psychology and the law.

**Recommended Reading**

**HAY547**  
Psychology of the Family

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HAY350/HAY650, HAY430 is the prerequisite for HAY547, HAY430 is the prerequisite for HAY547, HAY547 is the prerequisite for HAY567, HAY647 is a prerequisite for HAY567, HAY547 is a prerequisite for HAY567 • Teaching methods: Seminars, Workshops, Lectures and Demonstrations • Assessment: Seminar Presentation 40%, Videotaped Interview 60%. Extra assessment tasks may be required for DPpsych students.

A subject in the Master of Psychology in Counselling Psychology and Professional Doctorate of Psychology (Counselling Psychology).

**Aims & Objectives**

The subject is designed to:

- Examine contemporary theory concerning the role and function of the Australian family and its interaction with the wider society.
- Introduce students to theory and practice of systems approaches to family therapy.

**Content**

Topics include:

- Introduction to the study of the family.
- Definitions of family, variations in Australian family structures.
- Family formation, functions.
- The family life-cycle.
- Family therapy and the major schools: structural, strategic, systemic.
- Contributions of significant family therapists.
- Generational and cross-cultural issues in family therapy.
- Measurement of family interactions.
- Experiential exercises will be conducted to demonstrate intervention strategies with couples and families.

**Recommended Reading**
Aims & Objectives
These subjects are designed to:

- Enhance students’ awareness of the importance of a scientific research base for health psychology.
- To consolidate students’ practical understanding of research methodology related to health psychology.
- To contribute to the research program of the School.

At the end of the equivalent of four years of full time study each student must submit a thesis. This thesis must be accompanied by a technical supplement containing detailed results, raw data, and copies of measures used.

Content
Development of research report based on student’s independent research project.

Recommended Reading


HAY584 Research Project (Health) 2A
HAY684

12.5 Credit Points  1 Semester per subject  Arrangement with supervisor

Hawthorn  Prerequisite: HAY584 is the prerequisite for HAY585, HAY585 is the prerequisite for HAY685  Teaching methods: Research supervision  Assessment: Research Thesis.

Subjects in the Master of Psychology in Health Psychology and part-time Professional Doctorate of Psychology (Health Psychology).

Aims & Objectives
These subjects are designed to:

- Enhance students’ awareness of the importance of a scientific research base for health psychology.
- To consolidate students’ practical understanding of research methodology related to health psychology.
- To contribute to the research program of the School.

At the end of the equivalent of four years of full time study each student must submit a thesis. This thesis must be accompanied by a technical supplement containing detailed results, raw data, and copies of measures used.

Content
Development of research report based on student’s independent research project.

Recommended Reading


HAY646 Supervised Counselling Placement B1
HAY645 Supervised Counselling Placement B2

12.5 Credit Points  113 work days  • 4 Hours per Week per semester  • Hawthorn  • Prerequisite: HAY640 and HAY641, HAY642 is a prerequisite for HAY643  Teaching methods: Supervision on site by an approved counselling psychologist or similarly qualified professional  • Assessment: Continuous.

Subjects in the Professional Doctorate of Psychology (Counselling Psychology).

Aims & Objectives
These practica are intended to broaden and consolidate students’ previous learning in the program and to provide students with the opportunity to act as responsible professionals within a counselling setting. The 113 work days include approximately 225 hours of client contact. Students will be allocated a setting for each supervised placement. Allocation to a setting will be guided both by the student’s professional interests and the objective of extending his or her existing skills. Students will take on counselling duties and participate in the professional activities of the supervised practice. The School of Social and Behavioural Sciences has links with numerous practice settings in which experienced psychologists work.

Students will be required to present written and/or verbal case reports to their supervisors.

Students will be required to participate in the assessment or review of some aspect of the service delivery or administration of the supervised practice setting.

Content
Students will be evaluated by the supervisor(s) most directly associated with their work, together with the coordinator. Performance will be reviewed mid-way through the internship and a formal assessment made at the end of each supervised placement.

HAY582 Research Project (Health) 1A
HAY682

HAY583 Research Project (Health) 1B
HAY683

12.5 Credit Points  • 1 Semester  • Hawthorn  • Prerequisite: HAY582 is a prerequisite for HAY583, HAY682 is a prerequisite for HAY683  Teaching methods: Research supervision  • Assessment: Thesis progression.

A subject in the Master of Psychology in Health Psychology and the part-time Professional Doctorate of Psychology (Health Psychology).

Aims & Objectives
These subjects are designed to:

- Enhance students’ awareness of the importance of a scientific research base for health psychology.
- To consolidate students’ practical understanding of research methodology related to health psychology.
- To contribute to the research program of the School.

At the end of the equivalent of four years of full time study each student must submit a thesis. This thesis must be accompanied by a technical supplement containing detailed results, raw data, and copies of measures used.

Content
Development of research report based on student’s independent research project.

Recommended Reading


Subjects within the full-time Professional Doctorate of Psychology (Counselling Psychology).

Aims & Objectives
These subjects are designed to:
- Enhance students’ awareness of the importance of a scientific research base for
counselling psychology.
- To consolidate students’ practical understanding of research methodology related
to counselling psychology.
- To contribute to the research program of the School.

At the end of the equivalent of four years of full time study each student must submit a
thesis. This thesis must be accompanied by a technical supplement containing detailed
results, raw data, and copies of measures used.

Content
Development of research report based on student’s independent research project.

Recommended Reading

HAY654 Research Project (Counselling) G
50 Credit Points  • 1 Semester  •  Hawthorn  •  Prerequisite: HAY653 is the prerequisite
for HAY654  Teaching methods: Research supervision  Assessment: Continuous.
Subjects within the Full-time Professional Doctorate of Psychology (Counselling Psychology).

Aims & Objectives
These subjects are designed to:
- Enhance students’ awareness of the importance of a scientific research base for
counselling psychology.
- To consolidate students’ practical understanding of research methodology related
to counselling psychology.
- To contribute to the research program of the School.

At the end of the equivalent of four years of full time study each student must submit a
thesis. This thesis must be accompanied by a technical supplement containing detailed
results, raw data, and copies of measures used.

Content
Development of research report based on student’s independent research project.

Recommended Reading

HAY657 Research Project (Counselling) A1

HAY658 Research Project (Counselling) A2

HAY659 Research Project (Counselling) B1

HAY660 Research Project (Counselling) B2

HAY661 Research Project (Counselling) C1

HAY662 Research Project (Counselling) C2

HAY663 Research Project (Counselling) D1

HAY664 Research Project (Counselling) D2

HAY665 Research Project (Counselling) E1

HAY666 Research Project (Counselling) E2

HAY668 Research Project (Counselling) F2

HAY670 Research Project (Counselling) G2

12.5 Credit Points  • 1 Semester  •  Hawthorn  •  Prerequisite: HAY657 is the prerequisite
for HAY658, HAY658 is the prerequisite for HAY659, HAY659 is the prerequisite for
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HAY666, HAY666 is the prerequisite for HAY668, HAY668 is the prerequisite for
HAY669, HAY669 is the prerequisite for HAY670  Teaching methods: Research supervision  Assessment: Continuous.
Research subjects within the Part-time Professional Doctorate of Psychology (Counselling Psychology).

**Aims & Objectives**

These subjects are designed to:
- Enhance students’ awareness of the importance of a scientific research base for counselling psychology.
- To consolidate students’ practical understanding of research methodology related to counselling psychology.
- To contribute to the research program of the School.

At the end of the equivalent of four years of full time study each student must submit a thesis. This thesis must be accompanied by a technical supplement containing detailed results, raw data, and copies of measures used.

**Content**

Development of a research report based on student’s independent research project.

**Recommended Reading**


**HAY667 Research Project (Counselling) F1**

**HAY669 Research Project (Counselling) G1**

**HAY671 Research Project (Counselling) H1**

**HAY672 Research Project (Counselling) H2**

25 Credit Points • 1 Semester • Hawthorn • Prerequisite: HAY666 is the prerequisite for HAY667, HAY668 is the prerequisite for HAY669, HAY670 is the prerequisite for HAY671, HAY672 is the prerequisite for HAY673 • Teaching methods: Research supervision • Assessment: Continuous until HAY672 when a 40,000 to 60,000 word thesis is completed.

Subjects within the part-time Professional Doctorate of Psychology (Counselling Psychology).

**Aims & Objectives**

These subjects are designed to:
- Enhance students’ awareness of the importance of a scientific research base for counselling psychology.
- To consolidate students’ practical understanding of research methodology related to counselling psychology.
- To contribute to the research program of the School.

At the end of the equivalent of four years of full time study each student must submit a thesis. This thesis must be accompanied by a technical supplement containing detailed results, raw data, and copies of measures used.

**Content**

Development of a research report based on student’s independent research project.

**Recommended Reading**


**HAY674 Research Project (Health) 1**

**HAY675 Research Project (Health) 2**

**HAY676 Research Project (Health) 3**

**HAY679 Research Project (Health) 6**

25 Credit Points • 1 Semester • Hawthorn • Prerequisite: HAY674 must be completed before HAY675, HAY675 must be completed before HAY676, HAY678 must be completed before HAY677, HAY678 must be completed before HAY679 • Teaching methods: Research supervision • Assessment: Continuous until HAY672 when 40,000 to 60,000 word thesis is completed.

Subjects within the full-time Professional Doctorate of Psychology (Health Psychology).

**Aims & Objectives**

These subjects are designed to:
- Enhance students’ awareness of the importance of a scientific research base for health psychology.
- To consolidate students’ practical understanding of research methodology related to health psychology.
- To contribute to the research program of the School.

At the end of the equivalent of four years of full time study each student must submit a thesis. This thesis must be accompanied by a technical supplement containing detailed results, raw data, and copies of measures used.

**Recommended Reading**


**HAY677 Research Project (Health) 4**

**HAY689 Research Project (Health) 5B**

**HAY690 Research Project (Health) 6**

**HAY691 Research Project (Health) 7A**

**HAY693 Research Project (Health) 7B**

**HAY694 Research Project (Health) 8B**

25 Credit Points • 1 Semester • Hawthorn • Prerequisite: HAY668 must be completed before HAY677, HAY688 must be completed before HAY689, HAY689 must be completed before HAY680, HAY688 must be completed before HAY681, HAY689 must be completed before HAY680, HAY685 must be completed before HAY687, HAY689 must be completed before HAY680 • Teaching methods: Research supervision • Assessment: Defences of Thesis, Thesis.

Subjects in the part-time Professional Doctorate of Psychology (Health Psychology).

**Aims & Objectives**

These subjects are designed to:
- Enhance students’ awareness of the importance of a scientific research base for health psychology.
- To consolidate students’ practical understanding of research methodology related to health psychology.
- To contribute to the research program of the School.

At the end of the eighth year of enrolment each student must submit a thesis. This thesis must be accompanied by a technical supplement containing detailed results, raw data, and copies of measures used.

**Recommended Reading**


**HAY678 Research Project (Health) 5**

**HAY681 Research Project (Health) 8**

37.5 Credit Points • 1 Semester • As determined with supervisor • Hawthorn • Prerequisite: HAY677 must be completed before HAY678, HAY688 must be completed before HAY681 • Teaching methods: research supervision • Assessment: Defence of Thesis.

Subjects in the full-time Professional Doctorate of Psychology (Health Psychology).

**Aims & Objectives**

These subjects are designed to:
- Enhance students’ awareness of the importance of a scientific research base for health psychology.
- To consolidate students’ practical understanding of research methodology related to health psychology.
- To contribute to the research program of the School.

At the end of the fourth year of enrolment each student must submit a thesis. This thesis must be accompanied by a technical supplement containing detailed results, raw data, and copies of measures used.

**Recommended Reading**


HAY680     Research Project (Health) 7
50 Credit Points  •  1 Semester  •  Hawthorn  •  Prerequisite: HAY679 must be completed before HAY680  •  Teaching methods: research supervision  •  Assessment: Continuous until HAY681 when a 40,000 to 60,000 word thesis is completed. A subject in the Full-time Professional Doctorate of Psychology (Health Psychology).

Aims & Objectives
These subjects are designed to:

• Enhance students’ awareness of the importance of a scientific research base for health psychology.
• To contribute to students’ practical understanding of research methodology related to health psychology.
• To contribute to the research program of the School.

At the end of the equivalent of four years of full time study each student must submit a thesis. This thesis must be accompanied by a technical supplement containing detailed results, raw data, and copies of measures used.

Recommended Reading

HAY686     Research Project (Health) 3A
HAY687     Research Project (Health) 3B
HAY688     Research Project (Health) 5A
HAY692     Research Project (Health) 8A
12.5 Credit Points  •  1 Semester  •  Hawthorn  •  Prerequisite: HAY686 must be completed before attempting HAY686, HAY686 must be completed before attempting HAY687, HAY687 must be completed before attempting HAY688, HAY688 must be completed before attempting HAY689, HAY689 must be completed before attempting HAY690, HAY690 must be completed before attempting HAY691, HAY691 must be completed before attempting HAY692, HAY692 must be completed before attempting HAY693, HAY693 must be completed before attempting HAY694  •  Teaching methods: Arrangement with supervisor.  •  Assessment: Defence of Thesis, Thesis.

Subjects in the Professional Doctorate of Psychology (Health Psychology).

Aims & Objectives
These subjects are designed to:

• Enhance students’ awareness of the importance of a scientific research base for health psychology.
• To consolidate students’ practical understanding of research methodology related to health psychology.
• To contribute to the research program of the School.

At the end of the equivalent of four years of full time study each student must submit a thesis. This thesis must be accompanied by a technical supplement containing detailed results, raw data, and copies of measures used.

Recommended Reading

HBC220     Financial Information Systems
12.5 Credit Points  •  1 Semester  •  4 Hours per Week  •  Hawthorn  •  Prerequisite: HBC110  •  Teaching methods: Lecture, Tutorial & Computer Laboratory.  •  Assessment: Practice set 20%, Tests 20%, Examinations 55%, Tutorial Participation 5%.

A subject in the Bachelor of Business.

Aims & Objectives
This subject traces the development of the accounting process as an information flow to provide the basis from which management control and decision making stems. The computerised processing of information is examined and an accounting package for microcomputers is used to facilitate it.

Content
The accounting equation is re-examined in order to prepare the balance sheet and profit and loss statement. The control of cash, debts, stock and fixed assets are included, as are balance day adjustments and bank reconciliation statements. The internal control implications of aspects of accounting systems are also assessed.

References

HBC221     Corporate Accounting
12.5 Credit Points  •  1 Semester  •  4 Hours per Week  •  Hawthorn  •  Prerequisite: HBC110 and HBC220  •  Teaching methods: Lecture and Tutorial  •  Assessment: Assignment 5%, Test 25%, Examination 70%.

A subject in the Bachelor of Business.

Aims & Objectives
The overall objective of the subject is to develop an ability to think through corporate accounting issues, specifically:

• To develop an awareness of the financial accounting function within a company.
• To develop students’ problem solving abilities in the application of the principles of corporate accounting.
• To develop students’ awareness of contemporary issues in the practice of financial accounting, by reference to actual situations where appropriate.
• To develop students’ independent research skills by the assignment of research areas within the course.
• To develop students’ awareness of the interrelationship between corporate accounting and corporate law.

Content
The subject covers the following areas:

• Share capital and other forms of finance.
• Business combinations, including amalgamations, mergers and takeovers.
• Group accounting (Particular emphasis is placed on this topic. It includes the preparation of consolidated accounts, equity accounting and joint ventures).
• Availability of profits for distribution.
• Presentation of financial reports.
• Reconstruction and company liquidation.

References
HBC222  Management Decision Making
12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HBC110  • Teaching methods: Lecture and Tutorial  • Assessment: Tutorial participation 5%, Assignment 20%, Test 25%, Examination 50%.
A subject in the Bachelor of Business.

Aims & Objectives
To introduce students to the role of accounting in the planning and decisionmaking functions of the management process.

Content
Topics covered include basic cost concepts, cost-volume-profit analysis, cost allocation issues, in both manufacturing and services, budgeting, profitability analysis and the analysis of costs for decision making. Students will be encouraged to:
- Utilise micro-computer based techniques for solving problems.
- Focus on the relevance of accounting information to management information needs.
- Critically evaluate traditional management accounting theory and practice against the contemporary literature on activity-based costing and the new technologies.

References

HBC223  Analysis for Competitive Advantage
12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HBC110 and HBC222  • Teaching methods: Lecture and Tutorial  • Assessment: Tutorial participation, Assignment, Test, Examination.
A subject in the Bachelor of Business.

Aims & Objectives
To understand the nature of competitive strategy and the management accounting tools and techniques to assist in formulating and evaluating business strategy. The emphasis will be on developing analytical skills and focusing on performance evaluation.

Content
Topics covered include:
- Introduction to business strategy.
- Quality and theory of constraints.
- Cost systems.
- Functional performance evaluation.
- Strategic performance evaluation.
- Organisational structure.
- Management accounting.
- Transfer pricing.

References

HBC224  Financial Management
12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HBC110, HMB110 or HMB111. This subject must be completed as a second year unit.
Teaching methods: Lecture and Tutorial  • Assessment: Tests 35%, Examination 65%.
A subject in the Bachelor of Business.

Aims & Objectives
The objectives of this subject are:
- To provide students with an understanding of the concepts of corporate finance.
- To develop in students the skills of analysis and evaluation needed to apply the concepts of corporate finance to financial management.

Content
The course is structured from the point of view of orientating the student to the fundamentals of managing the financing and investment aspects of a business and covers the following specific topics:
- Concepts of valuation.
- Evaluation and selection of investment projects.
- Cost of capital.
- Sources of finance and financial intermediaries.
- Dividend policy.
- Financing methods and impact on capital structure.

Textbook

References

HBC225  Auditing
12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HBC110 and HBC221  • Teaching methods: Lecture and Tutorial  • Assessment: Tests 20%, Assignments 20%, Examinations 60%.
A subject in the Bachelor of Business.

Aims & Objectives
The broad objective of this subject is to familiarise students with the underlying concepts, objectives and reporting function of the auditor. The subject deals with both theoretical and practical aspects of auditing. The aim is to integrate the concepts of auditing with practical approaches taken by the auditor to ensure students gain a complete picture of the audit process.

Content
Theoretical topics studied include auditing methodology and the formulation of auditing standards; audit independence; the rights, duties and legal liability of auditors; ethical considerations; the audit report and the concept of risk, materiality and audit evidence, encompassing a review of internal control structures and the attendant control risk. Consideration is given to the impact of auditing in a QIS environment and different sampling methodologies. Students are given a hands on appreciation of the use of generalised audit software in a case study assignment. Students are also introduced to the area of public sector auditing.

References

HBC230  Personal Investment
12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HBC224 recommended. Students should not undertake this subject if they have completed HBC238 Personal Investment.  • Corequisites: HBC224 recommended  • Teaching methods: Lecture and Tutorial  • Assessment: Assignments, 2 Tests, Examination.
A subject in the Bachelor of Business.

Aims & Objectives
The purpose of this subject is to help participants learn how to manage their money and develop skills to be better able to advise others in managing their investments. To achieve this purpose it is necessary to learn about the investment alternatives available today, and more importantly, to develop a way of thinking about investments that will remain in the years ahead when new investment opportunities arise as a result of changes to our financial system.

More specifically, the course objectives are:
- To acquaint participants with the various avenues for the investment of funds, including shares, fixed-interest securities and property.
- To review the impact of taxation on investment planning.
- To consider the fundamental principles of modern portfolio theory.
- To consider the process of portfolio selection and ongoing investment strategies.
- To review the characteristics of financial futures and options and how they may be used to modify the risk-return profile of investment portfolios.
HBC330    Current Issues in Accounting

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: As a capstone subject in the Accounting major, students must study this subject in their final semester of the course and must also have completed HBC221, HBC222, HBC224, HBC225, HBL220, HBL221. • Teaching methods: Lecture and Tutorial • Assessment: Essay, Tests, Examination.

A subject in the Bachelor of Business.

Aims & Objectives

The objectives of this subject are:

• To examine the development of accounting theory and the methodology used by accounting theorists.
• To describe and critically analyse a framework of accounting concepts including assets, liabilities and income.
• To use the methodology and framework developed in the subject to study specific issues in financial accounting, including the development of accounting standards, agency theory, current measurement issue, ethics and accounting for income tax, intangibles, extractive industries, foreign currency translation and environmental accounting.

Although the subject is concerned with theory, considerable use is made of practical problems in parts of the course to illustrate the application of theory.

Content

Topics include:

• The nature and development of accounting.
• The standard setting process.
• The current conceptual framework project.
• Income theory and measurement issues.
• Several specific standards are also discussed such as intangible assets, those relating to extractive industries and tax effect accounting.
• Positive accounting theory.

Textbook


References


HBC331    Taxation Issues and Planning

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HBC110 and HBC221 recommended. • Teaching methods: Lecture and Tutorial • Assessment: Test 30%, Examination 70%.

A subject in the Bachelor of Business.

Aims & Objectives

The overall course objective is to develop in students an understanding of the Income Tax Assessment Act, together with those acts complementary to the Assessment Act. Specifically, the course will:

• Familiarise students with recent court and Administrative Appeals Tribunal decisions in the area of income taxation.
• Provide students with an overview of tax planning issues and concepts.
• Develop research skills in students in relation to current and landmark taxation cases.
• Introduce students to the complexities of taxation in relation to various taxable entities.
• With the aid of income tax rulings and the aforementioned tax cases, develop in students an understanding of the basic concepts of income, capital, and the rules governing deductions.

Content

Topics covered include the nature of assessable income, specific income types, source residency and derivation, eligible termination payments, capital gains tax, fringe benefits tax, allowable deductions, goods and services tax and the provisions relating to companies, partnerships, and individuals.

References

Australian Federal Tax Reporter, CCH Australia Ltd, North Ryde, NSW (current Edn.)
Australian Income Tax Assessment Act, CCH Australia Ltd, North Ryde, NSW, (current Edn.)
Australian Master Tax Guide, CCH Australia Ltd, North Ryde, NSW (current Edn.)
Australian Tax Handbook, ATP, Sydney, (current Edn.)
Barkocy, S., Australian Tax Casebook, CCH Australia Ltd, North Ryde, NSW, (current Edn.)
Lehmann, G., Coleman, C., Taxation Law in Australia, ATP, Sydney, (current Edn.)

HBC339    Financial Risk Management

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HBC224. Students should not undertake this subject if they have completed HBC227 Financial Risk Management. • Teaching methods: Lecture and Tutorial • Assessment: Tests 30%, Examination 70%.

A subject in the Bachelor of Business.

Aims & Objectives

The subject examines the nature of risk in the context of financial decisions and the techniques used by management to identify and manage the risks.

Content

Specific topics include project risk analysis, options, futures and forwards, credit risk in financial institutions, swaps: managing interest rate risk, foreign exchange risk, and portfolio risk.

References


HBC410    Accounting Honours Dissertation

60 Credit Points • 1 Semester (full-time) • Hawthorn • Prerequisite: HBC015 and HBC411 • Teaching methods: Supervision • Assessment: Dissertation.

A subject in the Bachelor of Business (Honours).

Aims & Objectives

The student’s independent research work will be supervised by a suitably qualified member of Swinburne academic staff. The topic of the dissertation, while being set by the student, must be consistent with:

• The broad content of the discipline within which the research has been taken.
• The students’ capacity to complete research into the topic in the prescribed time.
Content

Normally, a student will produce a written, minor dissertation of between 10,000 and 15,000 words. The structure of the dissertation will be consistent with both the proposal developed in HBC411 Advanced Reading Unit and with the quality expectations that are carried with a work of this kind.

The dissertation will include:

- A statement of the issue.
- Hypothesis or problem.
- A current literature review.
- Cogent argument.
- Clear conclusions and if necessary, appropriate recommendations.

References

References will be discipline specific.

HBC411 Accounting Advanced Reading Unit

20 Credit Points • 1 Semester • Hawthorn • Prerequisite: Nil • Teaching methods: Regular meetings with Supervisor. • Assessment: Written Honours Dissertation Proposal, Seminar Presentation of Honours dissertation proposal, Literature Review. A subject in the Bachelor of Business (Honours).

Aims & Objectives

To explore the breadth and depth of the area of study chosen by the student in a structured environment. To allow the student to use this exploratory approach as a means of arriving at a viable topic for their dissertation. Students undertaking the language component will be required to read part of the prescribed reading in the chosen language.

Content

A common core of prescribed reading in the area of study of both text and journal articles, and seminars on current business and social topics. The purpose of the readings, which will be allocated to individual students, is to engage the student in a critical appraisal of the material, and to develop further their research instincts.

References

References will be discipline specific.

HBC455 Accounting Information Systems

12.5 Credit Points • 1 Semester • Hawthorn • Prerequisite: HBC454 Accounting Principles • Teaching methods: Lecture and tutorial • Assessment: Final Examination, Practice Set Assignment, Class participation. A subject in the Graduate Certificate of Accounting.

Aims & Objectives

To develop in students an understanding of the use of computers in the managing and maintaining of a company’s financial reports.

Content

- To provide participants with the skills and knowledge to effectively use and set up comptuerised accounting systems with an understanding of how issues of internal control of accounting systems and reports can be managed in an electronic environment. To provide students with an understanding of the use of computer produced reports in the management and ongoing building of a business’ competitive advantage.

References


HBC456 Managerial Accounting

12.5 Credit Points • 1 Semester • 5 Hours per Week taught in block mode. • Hawthorn • Prerequisite: HBC454 • Corequisites: Nil • Teaching methods: Lecture and class discussion of issues and problems. • Assessment: Assignments, Examinations.

A subject in the Graduate Certificate of Accounting.

Aims & Objectives

To introduce participants to the role of accounting in the planning and decisionmaking functions of the management process. To understand the characteristics and purposes of the main types of cost systems and how they provide information for costing products and services, for measuring the performance of managers and business segments, and for making strategic decisions.

Content

- Cost volume profit analysis.
- Costing products and services.
- Short term decision analysis.
- Budgeting: objectives.
- Preparation of master budget.
- Designing budgeting systems.
- Behavioural aspects of budgeting.
- Internal performance measurement.

References


HBC457 Business Modelling and Analysis

12.5 Credit Points • 1 semester • 5 Hours per Week taught in block mode. • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture and tutorial. • Assessment: Final Examination, Major Assignment, Class Test-short answers. A subject in the Graduate Certificate of Accounting.

Aims & Objectives

This subject has been designed to enhance and promote students’ numeracy and interpretative skills to the level required for their future studies. In particular this subject will provide students with a knowledge of mathematical and statistical techniques and the skills to analyse and interpret results.

Content

- Financial Analysis DCF and financial mathematics.
- Finance and Capital Markets
- Research Descriptive Statistics
- Normal distribution
- Regression
- Accounting Research

References

HBC531 Financial Reporting

12.5 Credit Points • 1 Semester • 5 Hours per Week taught in block mode • Hawthorn
• Prerequisite: HBC454 • Teaching methods: Lecture and class discussion of issues and problems • Assessment: Assignments, Examinations.

A subject in the Graduate Diploma of Accounting.

Aims & Objectives
The overall objective of this subject is to develop in participants an ability to think through corporate accounting issues, to develop an awareness of the financial accounting function within a company and the contemporary issues in the practise of financial accounting.

Content
The subject covers the following areas:
• Share capital and other forms of finance.
• Business combinations, including amalgamations, mergers and takeovers.
• Group accounting - particular emphasis on this topic. It includes the preparation of consolidated accounts, equity accounting and joint ventures.
• Availability of profits for distribution.
• Reconstruction and company liquidation.

References

HBC613 Advanced Managerial Accounting

12.5 Credit Points • 1 Semester • 5 Hours per Week taught in block mode • Hawthorn
• Prerequisite: HBC454 and HBC456 • Teaching methods: Lecture and Tutorial • Assessment: Tutorial participation, Assignments, Test, Examination.

A subject in the Master of Accounting.

Aims & Objectives
To understand the characteristics and purposes of the main types of cost systems and how they provide information for costing products and services, for measuring the performance of managers and business segments and for making strategic decisions.

Content
Topics covered include an introduction to business strategy, job order costing, process costing, costing in the service industries, standard costing, product costing and performance measurement in the modern manufacturing environment, performance evaluation of business units, profit variance analysis, ABM, JIT, TQM.

References

HBC614 Company Auditing

12.5 Credit Points • 1 Semester • 5 Hours per Week taught in block mode • Hawthorn
• Prerequisite: HBC453 • Teaching methods: Lecture and class discussion of issues and problems • Assessment: Assignments, Examinations.

A subject in the Master of Accounting.

Aims & Objectives
The broad objective of this subject is to familiarise participants with the underlying concepts, objectives and reporting function of the auditor. The unit deals with both theoretical and practical aspects of auditing. The aim is to integrate the concepts of auditing with practical approaches taken by the auditor to ensure participants gain a complete picture of the audit process.

Content
Theoretical topics studied include auditing methodology and the formulation of auditing standards, audit independence, the rights, duties and legal liability of auditors, ethical considerations, the audit report and the concept of risk, materiality and audit evidence, encompassing a review of internal control structures and the attendant control risk. Consideration is given to the impact of auditing in a CIS environment and different sampling methodologies. Students are given a hands on appreciation of the use of generalised audit software in a case study assignment. Students are also introduced to the area of public sector auditing.

References
Auditing Student Manual, Swinburne University, 2001.

HBC615 Financial Accounting Theory

12.5 Credit Points • 1 Semester • 5 Hours per Week taught in block mode • Hawthorn
• Prerequisite: HBC531 • Teaching methods: Lecture and class discussion of issues and problems • Assessment: Assignments, Examinations.

A subject in the Master of Accounting.

Aims & Objectives
The objectives of this subject are:
• To examine the development of accounting theory and the methodology used by accounting theorists.
• To describe and critically analyse a framework of accounting concepts including assets, liabilities and income.
• To use the methodology and the framework developed in the subject to study specific issues in financial accounting including the development of accounting standards, agency theory, current cost accounting, ethics and accounting for income tax, intangibles, mining and foreign currency translation.

Although the subject is concerned with theory, considerable use is made of practical problems in parts of the subject to illustrate the application of theory.

Content
Topics studied include:
HBC618 Personal Investment

12.5 Credit Points • 1 Semester • 5 Hours per Week taught in block mode. • Hawthorn
Prerequisite: HBC529 • Corequisites: HBC329 recommended Teaching methods: Lecture and Tutorial • Assessment: Assignments, Two Tests, Examinations.
A subject in the Master of Accounting.

Aims & Objectives
The purpose of this subject is to help participants learn how to manage their money and develop skills to be better able to advise others in managing their investments. To achieve this it is necessary to learn about the investment alternatives available today, and more importantly, to develop a way of thinking about investments that will remain in the years ahead when new investment opportunities arise as a result of changes to our financial system. More specifically, the course objectives are:

• To acquaint participants with the various avenues for the investment of funds, including shares, fixed-interest securities and property.
• To review the impact of taxation on investment planning.
• To consider the fundamental principles of modern portfolio theory.
• To consider the process of portfolio selection and ongoing investment strategies.
• To review the characteristics of financial futures and options and how they may be used to modify the risk-return profile of investment portfolios.

Content
• Taxation and the investor.
• Portfolio theory.
• Efficient markets.
• Fundamental and technical analysis.
• Interest bearing investments.
• Managed investments and performance evaluations.
• Real estate.
• Warrants, rights and convertible securities.
• Options and futures.
• Superannuation.
• Financial planning and investment advice.

References

HBC616 Income Tax Law

12.5 Credit Points • 1 Semester • 5 Hours per Week taught in block mode. • Hawthorn
Prerequisite: HBC539 • Teaching methods: Lecture and Class discussion of issues and problems • Assessment: Assignments, Examinations.
A subject in the Master of Accounting.

Aims & Objectives
The overall objective is to develop in students an understanding of the Income Tax Assessment Act, 1936, as amended, together with those acts which are complementary to the Assessment Act.

Content
Topics studied include:

• The nature of assessable income.
• Specific income types.
• Source residency and derivation.
• Eligible termination payments.
• Capital gains tax.
• Fringe benefits tax.
• Allowable deductions.
• Provisions relating to companies.
• Partnerships and individuals.

References
Topical Tax Cases for Australians, CCH Australia Ltd.

HBC622 Research Methodology and Report

25 Credit Points • 2 Semester • 5 Hours per Week or equivalent • Hawthorn
Prerequisite: Completion of the Graduate Diploma of Accounting Teaching methods: Seminar approach, combining lectures with discourse, Laboratory workshops, Personal supervision. • Assessment: Class exercises and a publishable article of 7, 000 - 10,000 words.
A subject in the Master of Accounting.

Aims & Objectives
The subject aims to develop research skills, and:

• To familiarise students with various methods of data collection and analysis, which would be expected to be integral to the researcher in accounting and related disciplines. This is to contextualise the research, that is, to ensure that the researcher can choose the most appropriate methods given the context in which the researcher operates.
• To ensure that where students’ research demands it, they are conversant with the appropriate application of statistics, through the use of a recognised statistical package, for example, SPSS.
• To have an extensive understanding of the ethics of research, in particular the Swinburne Code of Ethics for Research.
• To develop an appreciation of business ethics in relation to accountability and social responsibility.
• To develop students’ ability to undertake a review of the latest literature in an accounting/finance related area.
• To develop students’ ability to formulate research questions and hypotheses.
• To develop the ability to successfully undertake a research project and write the results in a manner which would be acceptable for publication in an academic journal.

Content
The intention of this subject is to provide both the theoretical and technical knowledge to assist participants to:
• Successfully formulate research questions for their Research Project.
• Determine the appropriate methodology or methodologies.
• Collect data.
• Analyse data.
• Link findings to the theoretical underpinning of the research.

Each student will select a topic in consultation with his/her supervisor. After preparing a literature review and developing a research question, the student will undertake a research project. The results will be written in the form of an article for publication.

References

HBE110 Microeconomics
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture and Tutorial • Assessment: Assignments 20%, Test 20%, Final examination 60%.
A subject in the Bachelor of Business.

Aims & Objectives
To introduce key microeconomic concepts and to encourage and assist students to apply economic reasoning to issues facing business, government and consumers.

Content
The subject commences with an examination of the methodology of economics, the nature of the economising problem, and the facilitating role of markets. The tools of analysis developed in the early part of the course are applied to a number of economic and social questions such as pricing and output decisions of firms, the role of government in the market system, the impact of prohibition on the sale of addictive drugs and the impact of taxes.

References

HBE220 Macroeconomics
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HBE110 • Teaching methods: Lecture and Tutorial • Assessment: Multiple Choice Test 20%, Tutorial Workshops 10%, Essay 20%, Final Examination 50%.
A subject in the Bachelor of Business.

Aims & Objectives
To provide business students with an understanding and appreciation of macroeconomic concepts, issues and policies pertaining to Australian and global economies.

Content
This subject introduces students to key macroeconomic concepts, issues and policies. Emphasis is on current issues and policies. A basic macroeconomic model is developed and applied to issues such as inflation, unemployment and external imbalance and is used to demonstrate the impact of government macroeconomic policies (fiscal and monetary and microeconomic reform) on Australian business and the economy.

Students are introduced to the financial markets, financial deregulation and Australia’s international business environment.

References

HBE228 Banking and Financial Markets
12.5 Credit Points • 1 Semester • 2 Hours per Week • Hawthorn • Prerequisite: HBE110 and HBE220 • Teaching methods: Lecture and Tutorial • Assessment: Test 10% Workshops 20%, Presentations/Report 20%, Final Examination 50%.
A subject in the Bachelor of Business.

Aims & Objectives
The intention of this subject is to provide students with a basic financial vocabulary, and skills to enable analysis of financial data and text. The subject offers students foundation skills prior to taking more specialised finance subjects.

Content
• The payment system.
• Indirect financing.
• Direct financing.
• Securities.
• Retail Banking.
• Wholesale Banking.
• Managed Funds.
• The Money and Capital Market.
• Equity Markets.

Textbook

References

HBE333 Financial Institutions and Monetary Policy
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HBE110, HBE220 and HBE228 • Teaching methods: Lecture and Tutorial • Assessment: Test 40%, Final Examination 60%.
A subject in the Bachelor of Business.

Aims & Objectives
To provide students with:
• An up-to-date view of Australian financial intermediaries, their nature and operation in a changing regulatory and business environment.
• An appreciation and understanding of the application of monetary policy, its origins and current controversies.

Content
This course includes:
• A study of Australian financial intermediaries.
• The process of deregulation and its impacts on financial intermediaries and Reserve Bank policies.
• The role of the Reserve Bank as a prudential supervisor and as a regulator of economic instability.
• The development of monetary policy, current monetary policy controversies and the application and operation of monetary policy.

References
Reserve Bank of Australia, Bulletin, Articles also available from <http://www.rba.gov.au>
A subject in the Bachelor of Business (Honours).

20 Credit Points  1 Semester  Hawthorn  Prerequisite: Nil   Teaching methods: Lecture and Tutorial  Assessment: Tutorial presentation 10%, Test 30%, Final Examination 60%.

Reference will be discipline specific.

Contents

Clear conclusions and if necessary, appropriate recommendations.

A current literature review.

Hypothesis or problem.

A statement of the issue.

A current literature review.

Cogent argument.

Clear conclusions and if necessary, appropriate recommendations.

References

References will be discipline specific.

Aims & Objectives

To explore the breadth and depth of the area of study chosen by the student in a structured environment. To allow the student to use this exploratory approach as a means of arriving at a viable topic for their dissertation. Students undertaking the language component will be required to read part of the prescribed reading in the chosen language.

Content

A common core of prescribed reading in the area of study of texts, journal articles and seminars on current business and social topics. The purpose of the readings, which will be allocated to individual students, is to engage the student in a critical appraisal of the material, and to develop their research instincts.

References

References will be discipline specific.

Aims & Objectives

To provide students with an understanding of economic principles which can assist managerial decision making.

To assist students to analyse current economic issues and the likely effect of economic policies using a systematic framework.

To encourage students to apply their economic knowledge to the Australian economy.

References

References will be discipline specific.

Aims & Objectives

The student's independent research work will be supervised by a suitably qualified member of Swinburne academic staff. The topic of the dissertation, while being set by the student, must be consistent with:

- The broad content of the discipline of the research.
- The student's capacity to complete research into the topic in the prescribed time.
- The student's independent research work will be supervised by a suitably qualified member of Swinburne academic staff.
- The topic of the dissertation, while being set by the student, must be consistent with:
- The broad content of the discipline within which the research has been taken.
- The student's capacity to complete research into the topic in the prescribed time.

References

References will be discipline specific.

Aims & Objectives

The student's independent research work will be supervised by a suitably qualified member of Swinburne academic staff. The topic of the dissertation, while being set by the student, must be consistent with:

- The broad content of the discipline within which the research has been taken.
- The student's capacity to complete research into the topic in the prescribed time.

References

References will be discipline specific.

Aims & Objectives

The student's independent research work will be supervised by a suitably qualified member of Swinburne academic staff. The topic of the dissertation, while being set by the student, must be consistent with:

- The broad content of the discipline within which the research has been taken.
- The student's capacity to complete research into the topic in the prescribed time.

References

References will be discipline specific.
Aims & Objectives
To explore the breadth and depth of the area of study chosen by the student in a structured environment. To allow the student to use this exploratory approach as a means of arriving at a viable topic for their dissertation. Students undertaking the language component will be required to read part of the prescribed reading in the chosen language.

Content
A common core of prescribed reading in the area of study of both text and journal articles, and seminars on current business and social topics. The purpose of the readings, which will be allocated to individual students, is to engage the student in a critical appraisal of the material and to develop their research instincts.

References
References will be discipline specific.

HBG100 Business Communication
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Academic teaching, workshops and participating subject specialists. • Assessment: Academic journal 20%; Student-run mid-course meeting and report writing workshop 10%; Project presentation - oral 40% - academic poster 20%; Project and class participation 10%.

A subject in the Bachelor of Business.

Aims & Objectives
- To introduce students to the concept of a discourse community and their voice within that community.
- To provide second language speakers with an opportunity to increase their skills, motivation, independence and confidence in using English by participating in a student-centred developmental program. The central focus will be a project where they will be encouraged to gain control of the English speaking environment around them in order to produce an authentic product.
- To make strategic use of critical thinking activities, communicative language tasks and student-organised meetings to build decision-making confidence.
- To guide students to recognise and aim for culturally-based practices and standards that they have decided they need to fulfill both their short-term and long-term goals.
- To lead the students to develop appropriate criteria for evaluating themselves in the project and the subject as a whole.

Content
Students are required to work in syndicates to design a project which showcases the richness of the cultural mix and the talents of the students in the School of Business at Swinburne University. The project will be based on an authentic business or social problem and will be presented in the form of a proposal.

References
Readings taken from core subject texts.

HBG500 Business Research Methodology
25 Credit Points • 1 Semester • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture, Tutorial, Laboratories and Seminar. • Assessment: Class work, Quantitative assessment, Qualitative assessment.

Graduate Diploma of Business (Research Methodology).

Aims & Objectives
To equip students with the necessary research skills to conduct studies for higher degrees. The student will become competent in finding, evaluating and applying research findings to a wide variety of problems. Students will be exposed to all research methods not just those relevant to their discipline of study. The subject intends to provide the student with sufficient generic understanding of the implication of choosing particular quantitative and qualitative methods to choose an appropriate methodology for their project, rather than providing detailed technical knowledge of distinct statistical software packages. This can be obtained in other forums within the University.

Content
The subject will include the following topics:
- Introduction to research methodology.
- Selection and definition of a problem.
- Preparation and evaluation of research proposals.
- Selection of a sample.
- Selection of a measuring instrument.
- Selection and evaluation of qualitative and quantitative research methods.
- Data analysis and interpretation.
- Preparation of a research report.
- Research critiques.

Textbook

References

HBG510 Business Research Project
50 Credit Points • 1 Semester • Hawthorn • Prerequisite: Nil • Teaching methods: Supervision • Assessment: Project Report.

Graduate Diploma of Business (Research Methodology).

Aims & Objectives
The student’s independent work will be supervised by a suitably qualified member of Swinburne academic staff. The topic of the project, while being set by the student, must be one consistent with:
- The broad content of the discipline within which the project has been taken.
- The capacity of the student to realistically complete research into the topic in the prescribed time.
- A standard deemed by the examiner to be publishable.

Content
Normally, a student will produce a written, research project of between 10,000 and 15,000 words. The structure of the project report will be consistent with the quality expectations that are carried with a work of this kind.

The project will include:
- A statement of the issue.
- Hypothesis or problem.
- A current literature review.
- Cognitive argument.
- Clear conclusions and if necessary, appropriate recommendations.

In addition, a minimum of 2 workshops/seminars from the Library courses offered or the Office of Research and Graduate Studies calendar of workshops and activities must be attended. Although these do not constitute assessable activities per se, students may be required to make a short, public presentation of the material covered.

References
References will be discipline specific.

HBG511 Current Issues in Business: Advanced Reading Unit
25 Credit Points • 1 Semester • Contact hours will be determined in consultation with a student’s supervisor. • Hawthorn • Prerequisite: Nil • Teaching methods: Supervision • Assessment: Public presentation within the School of Business. This may be within a discipline group or some other group considered appropriate within the School. Preparation of a short report to complement the presentation.

Graduate Diploma of Business (Research Methodology).

Aims & Objectives
To equip students with the necessary skills to research on identified current issues in the business world, present the arguments on both sides of the case, and to come up with a cogent conclusion. Examples of current issues might include:
- Internationalisation/globalisation.
- Knowledge management.
Aims & Objectives
A subject in the Bachelor of Business.

Content
The student will produce a written report on a current business issue identified from readings of daily/weekly newspapers, current affairs programs, professional journals/magazines and texts. The report and the presentation will normally include:

- A statement of the issue.
- A review of readings from both sides of the case.
- A cogent argument.
- A clear, rational conclusion.

In addition, a minimum of two workshops/seminars from the Library courses offered or the Office of Research and Graduate Studies calendar of workshops and activities must be attended. Although these do not constitute assessable activities per se, students may be required to make a short, public presentation on the material covered.

References
References will be discipline specific

HBH110  Organisations and Management

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: Nil

Teaching methods: Experiential based on the 'Class As Organisation' (CAO) model and involving individual and collaborative study, a small group research project, and a large group task. Assessment: Work task: the Entrepreneurial Project 25%, Syndicate task and the Syndicate Research Report 25%, Final examination 50%.

Aims & Objectives
The subject aims to give experience and understanding of the issues facing managers in organisations and in the context in which they operate. By the end of the program, students will understand and appreciate the dynamic interrelationships between organisational structure, strategy, culture and external environment.

Content
Structure, strategy, culture and external environment as applied to an established external business organisation and to the class itself as a temporary learning organisation.

Textbook

References
Selected journal articles as recommended during the program.

HBH220  Organisational Behaviour: Change and Diversity

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: HBH110

Teaching methods: Lecture, Discussion, Case Studies and Experiential Exercises. Assessment: Individual Paper 20%, Individual group processes paper 50%, Small group presentation 30%.

Aims & Objectives
- To build and to reflect on the experiences in Organisations and Management (HBH110).
- To give students a better understanding of themselves, their impact on other people and the way other people influence their own behaviour.
- To allow students to experience the satisfaction and difficulties inherent in learning to work in semi-autonomous work groups and to improve their skills as team members and team leaders.
- To be able to explain the nature of their experiences in researching Organisation behaviour – developing conceptual and methodological skills in the process.
- To develop an understanding of Organisation Behaviour within the context of organisation change management.

Content
This subject gives students sound knowledge and personal understanding of the impact of human behaviour on work in groups and organisations and builds on the learning from ‘Organisation and Management’. It is designed to develop competencies in problem-solving, communication, and personal and interpersonal skills appropriate to diverse and changing workplaces. Class activities and assessment tasks require students to be creative and innovative while working collaboratively in small groups. Students are encouraged to draw on their own experiences to learn about their own behaviour, and are challenged to understand the diverse conceptions, attitudes and beliefs underlying people’s behaviour.

Recommended texts

HBH221  Introduction Human Resource Management

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: HBH110

Teaching methods: Experiential exercises, cognitive input, discussion of individuals' experiences, audio-visual resources, and specialist guest speakers. Assessment: Individual Research project - current HRM practices 50%, Group presentation 20%, Reflective Essay - Closed book Test 30%.

Aims & Objectives
- To introduce students to a model of human resource management.
- To provide students with an understanding about what is involved in the management of human resources through the application of appropriate techniques, functions, and management approaches.
- To promote an understanding of appropriate ways of working with and managing one of the organisation’s most important assets - human resources.

Content
This subject introduces a framework and the basic activities of HRM and enables students to gain an appreciation of HRM as well as acquiring skills in selection interviewing, performance counselling and conducting training sessions. Often the techniques used in these activities require innovation and creativity to address specific organisational challenges.

Textbook

References

HBH222  Organisation Design, Technology and Change

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: HBH110

Teaching methods: Presentation of theoretical material, experiential exercises, student group presentations on industry findings. Assessment: Individual case study 60%, Group Case Study Report/Presentation 30%, Active Participation in class based case studies, Class simulations and attendance, 10%.

Aims & Objectives
The unit is designed to create an understanding of appropriate organisational design for different types of institutions, which operate within contrasting economic, social, political and cultural settings. The objectives are to enable students to identify design
choices and the considerations relevant to these choices, to understand problems in
designing structures and jobs, and to develop analytical skills for dealing with design
problems.

Content
- To introduce students to the organisational life-cycle.
- Recognise existing design knowledge.
- Familiarise themselves with different approaches to design as described in
relevant scholarly literature.
- Develop ways of appreciating the tensions between differing designs and the
various purposes and needs of differing organisation members and groups.
- Investigate an existing case of organisation design and develop a judgement of its
strengths and weaknesses.
- Apply models for measuring organisational effectiveness (OE) through case study
analysis.
- To consider the impact of strategic business planning, technological change and
global competition on the design and structure of organisations.
- Investigate key determinants such as strategy, environment, culture,
entrepreneurial orientation, technology, change, size from an internal and external
analysis, and propose measures to improve organisational performance.

Textbook

References
Hall, pp.613-646.


Addison-Wesley, 1997.

(Source unknown).


French, W. L., et al., *Organisation Development and transformation: Managing Effective


Mintzberg, H., *Organisation Design: Fashion or Fit?* Harvard Business Review,


Stace, D., Downey, D., *Beyond the Boundaries: Leading and Re-creating the successful

Thompson, W.E., *Hanging Tongues: A Sociological Encounter with the Assembly Line,

**HBH224 Legal Aspects of Human Resource Management**

12.5 Credit Points  • 1 Semester  • 2 Hours per Week  • Hawthorn  • Prerequisite:
HBH110  • Teaching methods: Presentation of theoretical material and class discussion,
workplace projects.

Aims & Objectives
Considers the impact of legislation on contemporary human resource issues and
practices at the workplace level: planning, recruitment and selection, career
development, performance management, salaries, compensation and termination.
Analyses the relationship between employer and employee, contract of employment,
arbitration systems, equal opportunity and occupational health and safety.

Content
Analyses the impact of the common law and legislation on contemporary human
resource issues and practices at the workplace level. Some of the key issues studied
include the nature of the employment relationship, formation and performance of
employment contracts, the machinery of conciliation and arbitration, equal opportunity
and occupational health and safety. The subject enables students to gain an
understanding of managing and facilitating “best practices” in Human Resource
Management, by exposing them to an understanding of some of the constraints and
opportunities for entrepreneurial endeavour provided by Australia’s legal system.

Textbook

References

**HBH323 International Human Resource Management**

12.5 Credit Points  • 1 Semester  • 2 Hours per Week  • Hawthorn  • Prerequisite:
HBH110 and HBH221  • Teaching methods: Presentation of theoretical material, case
studies and experiential activities, class discussion, reflection, and consultation with
workplace projects.  • Assessment: Learning contract proposal 10%, Learning contract
report 50%, Group seminar paper 30%, Group seminar presentation 10%.

A subject in the Bachelor of Business.

Aims & Objectives
- To develop an understanding of national, corporate and regional cultures as they
impact on cross-cultural management.
- To consider some of the challenges associated with managing people across
cultures from a human resource management perspective.
- To explore some of the challenges in cross cultural management.
- To investigate some of the above issues through experiential activities and
workplace projects.

Content
This subject develops an understanding of national, corporate and regional cultures as
they impact on cross-cultural management. Encourages students to explore some of
the challenges associated with managing people across cultures from a human resource
management perspective. Students investigate issues through experiential activities and
workplace projects.

Textbook
USA, 1999.

References


Hickson, D.J., *Pugh, D.S., Management Worldwide: The Impact of Societal Culture on


Mead, R., *International Management: Cross-cultural dimensions*, Blackwell


Torrington, D., *Cheew Hua Tan, Human Resources Management for South East Asia*,

**HBH334 Managing Workplace Relations**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite:
HBH110 (or its equivalent). Although not a pre-requisite HBH224 Legal Aspects of HRM
is highly recommended.  • Teaching methods: Presentation of theoretical material,
experiential exercises, student group presentations, experiential learning  • Assessment:
Individual Essay 60%, Case Study analysis/Presentation 30%, Group IR Audit 10%.

A subject in the Bachelor of Business.

Aims & Objectives
- Overview current Australian developments in workplace reform. Explores
industrial relations changes that have occurred at both the macro level and micro
level.
- Understand the current Work Place Relations Act and the impact the Act will
have on the enterprise bargaining process and the key stakeholders.
- Explore and understand the major industrial relations theories to assess the nature
of the employment relationship: behaviour of employees, management
associations, and trade unions at the workplace.
- Explore enterprise bargaining and the changing nature of work.
• A comparative analysis: global trends and labour market flexibility.
• Understand and utilise negotiation models: develop a step-by-step, problem-solving model for negotiating an enterprise agreement.
• Allows students to undertake research into organisations and investigate changes at the workplace level on collective agreements through an IR Audit.

Content
Topics include:
• The Workplace Relations Act 1996: scope, provisions and implications.
• Different types of agreements, incidence and implications.
• Women in Enterprise Bargaining.
• NESB in the Enterprise Bargaining Process.
• Occupational Health and Safety implications for different categories of workers.
• Strategies for key stakeholders in the workplace relations area.
• Union strategies and employer associations strategies.
• Rewards Management & Variable Remuneration systems, KPI’s gainsharing, ESPS, salary packaging incidence and impact on workplace productivity.
• Competitive positioning and the workplace bargaining process.
• Flexibility in the workplace, globalisation and impact on Australian work.

Textbook

References
Australia at Work, Australian Centre for Industrial Relations Research and Training. Prentice Hall, Australia, 1999.

Journals
Asia Pacific Journal of Human Resources.
Australian Bulletin of Labour.
Journal of Industrial Relations.

HBH330 Organisation Behaviour: Dynamics of Group and Organisational Behaviour

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Supervision • Assessment: Project Report.

A subject in the Bachelor of Business.

Content
The content of the supervised project will be in line with the subject area for which the student was unable to enrol into a class and be determined after consultation between the student and supervisor.

Aims & Objectives
• Enable students to study in depth a topic associated with their HRM/OB major studies.
• Provide students with the opportunity to work with a supervisor in gaining further theoretical and practical insights into the topic chosen through the conduct of a supervised project.

Notes
This subject may only be taken by students planning to complete the eight HRM/OB subjects for AHRI accreditation, and who are unable to enrol in the final third year subject needed to complete the sequence of study.

References
Reading will be recommended by the supervisor. Students should contact the Subject Convener for further information about this subject. Enrolment in this subject must be approved by the Subject Convener.

HBH341 Strategic Human Resource Management

12.5 Credit Points • 1 Semester • 2 Hours per Week • Hawthorn • Prerequisite: HBH110 and HBH221 • Teaching methods: Presentation of theoretical material, case studies and experiential activities, class discussion, reflection, and consultation on workplace projects. • Assessment: Organisational Analysis 40%, Strategic HRM plan 50%, Attendance and participation 10%.

A subject in the Bachelor of Business.

Aims & Objectives
The aim of this subject is to:
• Develop an understanding of the critical links between strategic change, people and performance in achieving organisational success.
• Identify the importance of the integration of business, HRM and functional strategies.
• Consider the impact of strategic business decisions such as outsourcing, telecommuting etc. on HRM strategy and individual performance.
• Consider the HRM strategic choices available to an organisation in meeting its performance objectives.
• Study the traditional HRM activities from a strategic perspective.
• Explore some of the above issues through a workplace project which focusses on the issues of maintaining competitive advantage through people while meeting organisational requirements for continuous improvement.

Content
Following on from ‘Introduction to Human Resource Management’, this subject highlights the critical links between strategic change, people and performance in achieving organisational success. Considers the impact of strategic business decisions and strategic choices on human resource management strategy, organisational and individual performance. Students explore the issues through a workplace project which focusses on entrepreneurial initiative in achieving competitive advantage through people while meeting organisational requirements for continuous improvement.

Textbook

References
To develop an understanding of the consulting process and gain some skills in group and intergroup dynamics.

Aims & Objectives

A subject in the Graduate Diploma in Business (Human Resource Management).

Content

Normally, a student will produce a written minor dissertation of between 10,000 and 15,000 words. The structure of the dissertation will be consistent with both the proposal developed in HBH411 Advanced Reading Unit and with the quality expectations that are carried with a work of this kind.

The dissertation will include:

- A statement of the issue.
- Hypothesis or problem.
- A current literature review.
- Cogent argument.
- Clear conclusions and, if necessary, appropriate recommendations.

References

References will be discipline specific.

HBH411 Human Resource Management / Organisation Behaviour Advanced Reading Unit

12.5 Credit Points • 1 Semester • Hawthorn • Prerequisite: All subjects in the Graduate Certificate of Business (Human Resource Management).

Aims & Objectives

To develop knowledge and skills as researchers, particularly in relation to action research and case study as methods of research.

Content

To develop an understanding of group and intergroup dynamics.

To develop an understanding of the consulting process and gain some skills in consulting and facilitation.

To consider issues in developing consultant/client relationships and the negotiation of role boundaries.

To increase self-awareness in the consulting role and reflect on issues such as power, influence, values and ethics in the consulting process.

To develop intervention skills in dealing with group and organisational task processes including organisational change and resistance.

To apply learning to students’ ‘real world’ situations.

Textbooks


References


Argyris, C., Schein, D., Organisational Learning II: Theory, Method and Practice, Addison-Wesley OD Series, USA, 1996.


HBH522 Managing People across Cultures

12.5 Credit Points • 1 Semester • 2.5 Hours per Week • Hawthorn • Prerequisite: All subjects in the Graduate Certificate of Business (Human Resource Management).

Aims & Objectives

To develop an understanding of national, corporate and regional cultures as they impact on human resources management.

To understand and apply theoretical models to enable comparison between national cultures.

To identify and understand the relationships between culture and ethics.

To identify how culture and ethics impact on human resource management policies and practices, to be able to analyse these policies and practices and make recommendations for change.

To identify and understand the critical cultural issues for HR managers and how Australian culture impacts on those issues.

To develop knowledge and skills as researchers, particularly in relation to action research and case study as methods of research.

Content

To increase self-awareness in the consulting role and reflect on issues such as power, influence, values and ethics in the consulting process.

To develop intervention skills in dealing with group and organisational task processes including organisational change and resistance.

To apply learning to students’ ‘real world’ situations.

Group-dynamics - task and process.

Consulting cycle - contact and entry, diagnosis, planning and decision making, implementing and evaluation.

Personal and interpersonal consulting skills.

Action learning.

The politics of HRM consulting.

A psychodynamic perspective of HRM.

Issues in change management.

Textbooks


References


Argyris, C., Schein, D., Organisational Learning II: Theory, Method and Practice, Addison-Wesley OD Series, USA, 1996.


Textbook

References

Aims & Objectives
The purpose of this subject is to provide students with some understanding of relevant financial and technological business systems relevant to the HRM function which support the contribution to and implementation of business strategy. Specifically, the subject aims to provide students with:

- An understanding of the position of finance and information technology in the business environment and the role these functions play in enabling management decision making and the implementation of an organisation's business strategy.
- An understanding of basic financial reporting and the budgeting process.
- An appreciation of the technological environment which supports the business strategy and the relevant applications of the human resource management function.

Content
- Business strategy and competitive advantage.
- Links between business strategy and HRM performance as it applies to finance and technology, including balanced scorecard.
- Understanding the strategic implications of financial business reports for the HRM function.
- Issues and challenges in preparing HR budgets.
- Measuring HR financial performance, ratio analysis and the concept of "breakeven", activity based costing and cost/benefit analysis.
- The eBusiness environment, communication procurement and the electronic culture.
- Electronic management of HR functions such as eRecruitment, HRIS etc.
- Managing human resources in eBusiness environments, such as managing the performance of virtual teams, knowledge management and transfer of knowledge, eManagement of consultants etc.
- HRM case studies in finance and information business systems such as re-engineering HR systems and HR front-line services.

References

HBS525 HRM, Marketing and Business Research

Aims & Objectives
The purpose of this subject is to provide students with some understanding of relevant marketing strategies and business research techniques relevant to the HRM function which supports business strategy. Specifically, the subject aims to provide students with:

- An understanding of the position of marketing strategies and business research techniques in the business environment and the role these activities play in enabling management decision making and the implementation of an organisation’s business strategy.
- An appreciation of basic marketing theories, and commercial business research techniques, and their relevance to the effectiveness of the HRM function.
- An understanding of the importance of marketing to the internal client, services marketing, and the critical nature of relationship management and the impact on HR practice.

Content
- Business strategy and competitive advantage.
- Links between business strategy and HRM performance as it applies to marketing and business research.
- Fundamentals of marketing theory.
- Services marketing.
- Marketing to internal clients and measuring client satisfaction with the HRM function.
- The critical nature of relationship management to the effectiveness of the HRM function.
- Situation analysis and strategic audit.
- Types of commercial research.
- Sources of data, and relevance of data.
- Interpreting and reporting data.
- Use of the Internet.

References

**HBH604 Management, Organisation and People**

12.5 Credit Points  •  1 Semester  •  36 Hours  •  Hawthorn  •  Prerequisite: Nil (MIS subject)  •  Teaching methods: Lectures and Group Work  •  Assessment: Group Report and Presentation, Individual Journals/Group Dynamics Paper.

A subject in the Master of Information Systems.

**Aims & Objectives**

The subject aims to develop a systematic understanding of organisational processes and problems, and a managerial perspective in students. Theoretical models are introduced which can be applied to problems in order to strengthen the skills of impartial analysis of organisational issues.

**Content**

Content is structured to allow students to develop:

- A working understanding of group behaviour.
- An understanding of the tensions and anxieties change arouses and the ways in which they may manifest in organisations.
- New ways of thinking about and seeing organisations, that will provide useful tools in facilitating organisational change and in managing tasks in which human beings participate.
- An understanding of the impact IS professionals have on others and the place they occupy in organisations.

**References**

Reading list available prior to commencement of semester.

**HBH620 Strategic HRM in the Business Context**

12.5 Credit Points  •  1 Semester  •  2.5 Hours per Week  •  Hawthorn  •  Prerequisite: All subjects in the Graduate Diploma of Business (Human Resource Management)  •  Teaching methods: Presentation of theoretical material from a number of sources such as textbooks and articles, case studies and experiential activities drawing on students’ practical and workplace experience, class discussion, reflection, and consultation on workplace projects.  •  Assessment: Individual Workplace Project: Part 1 - 15%, Part 2 - 35%, Part 3 - 40%, Attendance and Participation - 10%.

A subject in the Master of Business (Human Resource Management).

**Aims & Objectives**

In preparation for managing HRM activities and contributing to the enhancement of organisational performance in the 21st century, students will be given the opportunity:

- To develop an understanding of key concepts in the formulation of corporate strategies and the contribution of HRM to these strategies.
- To develop an understanding of the critical links between strategic planning, organisational change and people performance in achieving organisational success.
- To identify the importance of the integration of business, functional and HRM strategies.
- To consider the HRM strategic choices available in the areas of staffing, performance evaluation, reward practices, management development and HR and their contribution to an organisation meeting its business objectives.
- To identify the HRM impacts of key business decisions such as acquisitions, mergers, downsizing, technological change and globalisation.
- To explore various theories and models of organisational change which can be considered in the process of strategy implementation.
- To explore the practicalities of developing a strategic HR plan through carrying out a workplace project.

**Content**

- Strategic Context - Understanding internal and external environments, managing change from a strategic perspective, business, HRM and functional strategies, current strategic issues such as globalisation, delegation to line management, outsourcing, telecommuting, social responsibility and ethics.
- Managing the HRM Activity - Strategic Choices - Workforce planning, attraction and placement of human resources, maximising HR productivity, quality and continuous improvement, maintaining human resources, strategic separation.
- Developing Capability and Performance - Aligning employee expectations with strategy, enabling and evaluating performance.

**Textbook**


**References**


**HBH621 Organisational Context and Dynamics**

12.5 Credit Points  •  1 Semester  •  2.5 Hours per Week  •  Hawthorn  •  Prerequisite: All subjects in the Graduate Diploma of Business (Human Resource Management)  •  Teaching methods: Presentation of theoretical material from a number of sources such as textbooks, articles, experiential activities, class discussion, reflection, workplace project and case analysis.  •  Assessment: Individual Workplace Case Analysis 80%, Team Learning, Project Report and Presentation 40%.

A subject in the Master of Business (Human Resource Management).

**Aims & Objectives**

- To understand the concept of a "Learning Organisation" and participate in the creation of an in-class "Learning Organisation".
- To identify your habitual and preferred ways of understanding organisations and your HRM role, and their influence on your managerial action particularly as it relates to change and continuous improvement.
- To increase awareness of intergroup processes and their impact on how HRM practitioners take up their roles.
- To develop further understanding of the consulting and negotiating roles as part of the management function.
- To use a variety of 'frames' for analysing and understanding organisations, especially the ones to which students currently belong.
- To demonstrate familiarity with some of the current theories about organising, managing and leading in HRM practice.
- To communicate their reflections, analyses and interpretations of organisational dynamics and activities in a clear and lucid manner, whether in written or oral form.
- To use current theories to support their chosen perspectives, analyses and interpretations.
- To apply their reflections, analyses and interpretations of organisational dynamics in order to develop recommendations for specific HRM and managerial action.
- To reflect on the interrelatedness of the HRM consulting role and organisational dynamics and recommend on how to contribute to and enhance organisational performance.

**Content**

The purpose of the subject is to introduce students to a metaphorical approach to organisational analysis and to develop an understanding of their own preferred approaches to managing. Various aspects of organisational dynamics will be considered including mechanistic, organic, political, cultural, ethical and psychic prison approaches to understanding organisations.

**Textbook**


**References**

HBH622  Entrepreneurial Strategic Workplace Research Proposal

12.5 Credit Points • 1 Semester • The equivalent of 2.5 Hours per Week taught in block mode. • Hawthorn • Prerequisite: All subjects in the Graduate Diploma of Business (Human Resource Management) • Teaching methods: Presentation of theoretical material from a variety of sources, class discussion and reflection on the business research process which draws on students’ practical and workplace experience, and group consultation on workplace project proposals. • Assessment: Presentation of Workplace Proposal 30%, Report on Workplace Proposal 70%.
A subject in the Master of Business (Human Resource Management).

Aims & Objectives
- To provide students with frameworks for the development of the workplace project proposal drawing on skills and concepts presented in the course.
- To familiarise students with various methods of business research integral to a business focussed researcher in Human Resource Management.
- To develop an understanding of the issues associated with contracting with organisations in relation to the workplace project, including ethical practices and confidentiality.
- To provide students with an understanding of the ethics of research, and in particular, the requirements of the Swinburne Code of Ethics for Research, and the preparation of an ethics application.

Content
- The development of the proposal in this subject will form the basis of the students’ entrepreneurial strategic workplace project and be integral to its conduct and completion.
- Identification and formulation of research projects.
- Organisational contracting.
- Business research methods, data collection and analysis.
- Literature searches and reviews.
- Consideration of strategic and entrepreneurial strategies.
- Business research ethics.
- Ethics application and Project Proposal preparation.

Textbook

References

HBH624  Entrepreneurial Strategic Workplace Research Project

25 Credit Points • 2 Semesters • Hawthorn • Prerequisite: All subjects in the Graduate Diploma of Business (Human Resource Management) and HBH622 Entrepreneurial Strategic Workplace Research Proposal • Teaching methods: Presentation of theoretical material from a variety of sources, class discussion and reflection on the business research process which draws on students’ practical and workplace experience and group consultation on workplace project proposals. • Assessment: Presentation of Workplace Project and 15 000 - 20 000 word Research Report.
A subject in the Master of Business (Human Resource Management).

Aims & Objectives
In general the subject aims to provide personal and professional development for students, and at the same time meet a specific organisational need. Given the current context of business enterprises, and through the vehicle of a workplace project, this subject aims to:
- Assist students to draw together and utilise the concepts and skills presented in the course, and apply these to an HRM workplace issue which contributes to their chosen organisation’s improvement.
- Develop students’ capabilities through their demonstration of strategically astute, business outcome focused, and innovative and entrepreneurial solutions to business problems/issues.
- Encourage personal development of students’ practitioner capability through demonstration of business acumen in relation to the chosen workplace project.

Content
- Literature searches and reviews in relation to the topic of the workplace project.
- Collection and analysis of data.
- Consideration of strategic and entrepreneurial strategies and solutions.
- Business research ethics.
HBI288  European Union
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Any Stage 1 Business or Arts subject. • Teaching methods: Lectures, Class Discussions and on-line modules. • Assessment: Class Presentation, Assignments, Major Essay.
A subject in the Bachelor of Business.

Aims & Objectives
The aim of this subject is for students to acquire an understanding of the process of economic integration in Western Europe. The subject analyses the social, political and economic changes in Europe, particularly since the mid 1980s.

The subject analyses the structure, operation and policies of the institutions of the European Union (EU) and discusses the significance of the Single European Act and the Maastricht and Amsterdam Treaties for European unity. The subject also considers the unique structure of the EU as a regional trading block.

Content
Particular topics for study will be: institutions and negotiation process of the EU and the development and implementation of European industrial, economic and social policy. These will be examined in the context of the European market and the changes taking place in Europe today. Other issues to be explored include the deepening of the institutions of the European Union, regionalism versus the nation-state and EU accession negotiations with Mediterranean, Central and Eastern European countries.

References

HBI300  Industry Placement
0 Credit Points • 6 or 12 Months • Hawthorn • Prerequisite: Nil • Teaching methods: Supervision by their employer and an academic staff member. • Assessment: Written Report.
A subject in the Bachelor of Business - for students who are accepted into the School’s Industry-based Learning program and gain an approved placement. The program is available to 2nd year students who have achieved a credit average. Placements are undertaken either halfway through second year or at the beginning of third year. Acceptance into the subject does not guarantee an industry placement. Currently this program is only available to students with Australian citizenship and Australian permanent residency.

Aims & Objectives
The objective of industry placement is for students to integrate theoretical knowledge with the practical applications and experiences in a commercial environment. It also aims to assist the student by providing opportunities for personal growth and developing both technical and interpersonal skills.

Benefits to the student:
• Academic performance is often seen to improve following the industry experience.
• Opportunity to experience particular areas of their chosen profession before graduation.
• Ability to earn while they learn.
• A head start to a successful future. As students with industry experience already have a point of comparison, career decisions are more informed and students have more to offer employers when they seek graduate employment.

References
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HBI341 Asia - Business Context
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Any first year business subject. Students should not undertake this subject if they have completed HAJ340 Business Japan in Global Context. • Teaching methods: Lecture, Class Discussion, On-line resources • Assessment: Assessment tasks provided on-line, Assignment (3000 words). Examination. A subject in the Bachelor of Business/Bachelor of Arts (Japanese).
Aims & Objectives
This subject examines the business environment in Asia from the perspective of Australian business, and provides an overview of Australia’s trade and investment relations with Asia. The subject aims to embrace broader issues relevant to international business through Japan and other Asian nations, such as the proposed single currency for Asia.
This subject is designed to:
- Develop in students an understanding of the business environment in the Asian region and an ability to recognise and analyse the factors unique to Asia which impact on Australian business.
- Develop in students technical skills related to on-line international business research and a competency in tasks related to formulating business strategies for the market in Asia.

Content
The structure of the subject will consist of a number of modules. Specific modules will be compulsory components of the subject, other modules will be optional to be negotiated with the subject convenor. Sample topics to be included are:
- Introduction to Japanese business.
- Modernisation and Development.
- Late industrialisation and government-business relations.
- Trading environments in the Asian region.
- Marketing to countries in Asia.
- Recent developments in Asia.
- Trade practices.
- eCommerce in the Asian region, opportunities and pitfalls for Australian business.

References
Reading list to be provided.

HBI342 Foundations of International Business
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HBE110 • Teaching methods: Lecture and Tutorial • Assessment: Progressive Assessment (tests), Final Examination. A subject in the Bachelor of Business.
Aims & Objectives
To encourage students to understand the macroeconomic foundation of International Business, the nature and significance of international trade to the Australian economy, the options, and be able to evaluate them, with the aim of improving Australia’s trade performance.

Content
This subject introduces key macroeconomic concepts, issues and policies, with a particular focus on international trade. It combines an examination of the nature of economic theory relating to international trade, trade restrictions and trade liberalisation, with discussion of key international trade issues of importance to the Australian business community and government. Other topics considered include:
- The composition and direction of Australia’s trade, the effects and implications of globalisation for Australian business.
- The determinants of a nation’s international competitiveness, and the importance of regional trade blocs.

References
To be advised.

HBI389 Work Experience in Europe
12.5 Credit Points • 1 Semester • Two/three months work placement • Hawthorn • Prerequisite: HBI288 recommended. (Basic competence in a second language is recommended.) • Teaching methods: 2-3 months full-time attendance at place of employment, 4 x 2 hour preparatory lectures. • Assessment: Written Report, Employer Assessment.
A subject in the Bachelor of Business.
Aims & Objectives
The aim of this elective subject is to provide students with a two/three month experience of living in a European country and working in a European company as a regular employee. The work experience subject further provides students with the linguistic and cultural competence and skills critical to the international trade environment.
This subject allows students to gain that essential hands-on experience in the European Union (EU) business world by exposing the students to the commercial environment of the European market place.

Content
Employment in a European company or organisation. Some of the topics to be covered during the subject are:
- Australia-Europe Business.
- Single European Market.
- European Monetary Union.
- European Business Practices.

References

HBI390 European Union Study Tour
12.5 Credit Points • Approximately 3-4 Weeks conducted in November/December • Hawthorn • Prerequisite: HBI288 recommended. (Basic competence in a second language is recommended.) • Teaching methods: 2-3 months full-time attendance at place of employment, 4 x 2 hour preparatory lectures. • Assessment: Written Report, Employer Assessment.
A subject in the Bachelor of Business.
Aims & Objectives
This subject aims:
- To expose students to the cultural, political and regulatory environment of the European Union.
- To provide an opportunity for students to discuss current issues with a range of individuals and organisations actively involved in this region.

Content
The basis of the subject is a Study Tour to several European countries. Students will be provided with industry briefings by European companies as well as briefings by AUSTRADE specialists and other national offices for international trade. Students will be provided briefings by the institutions of the European Union (such as the European Parliament, the European Investment Bank, the European Court of Justice and the offices of the European Commission). The tour is preceded by briefing sessions.

References
European Documentation Series, official publications of the European Community, Luxembourg.

Swinburne University of Technology | Higher Education Handbook 2002

References


References


References


References
HBI391 Pacific Rim Business Study Tour

12.5 Credit Points  • 1 Semester  •  Equivalent of 3 Hours per Week  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: Lecture, Class discussion, On-line  •  Assessment: Assignments, Test, Essay.

A subject in the Bachelor of Business.

Aims & Objectives

This subject aims to provide students with a strategic overview of the cultural, political, economic and regulatory characteristics relevant for business in selected countries of the Pacific Rim. The coursework and study tour aim to provide students with an opportunity to gain hands-on experience of the business environment in selected countries in this region. A range of specialist officials and business people will enable students to explore how the political and economic reforms taking place in these countries affect business.

Content

This subject entails students attending fifteen hours of seminars at Swinburne University. A number of modules are available on-line and are complemented by lectures. By the end of the subject the students should have:

- Acquired knowledge of local customs, values, attitudes and beliefs of selected countries of the Pacific Rim in general and the host country/countries in particular.
- Gained first hand experience of the host country/countries’ business practices.
- Gained a comparative knowledge of business systems and practices used in the host countries and Australia.

References

Because of the nature of the subject no recommended reading is set. Comprehensive reading lists will be provided at the first seminar.

HBI392 European Union - Business Context

12.5 Credit Points  • 1 Semester  •  Equivalent of 3 Hours per Week  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: Lecture, Class discussion, On-line  •  Assessment: Assignments, Test, Essay.

A subject in the Bachelor of Business.

Aims & Objectives

To provide an overview of the main features of the European Single Market regulatory environment.

- To analyse the European Union (EU) in the global trading environment and comparatively as a regional trading entity.
- To consider the individual economies of the EU in terms of the European integration process.
- To identify opportunities and threats affecting trade between Australia and Europe.
- To analyse EU external relations with Asia, and in particular, with Australia.
- To familiarise students with online international business research in the European markets.

Content

The subject comprises of a number of modules available on-line and complemented by lectures.

Topics:

- The EU/Global Trading Environment.
- EU Regulatory Environment.
- European Monetary Union.
- Doing Business in the EU.
- EU-Asia and EU-Australia Business.

References


HBI393 Work Experience in Asia

12.5 Credit Points  • 1 Semester  •  4 x 2 hours preparatory lectures and minimum 2 months full-time attendance at place of employment  •  Hawthorn  •  Prerequisite: Nil  •  Assessment: Participation, Employer Evaluation, Research Paper.

A subject in the Bachelor of Business.

Aims & Objectives

The objective of this subject is to provide students with up to six months experience of living in Asia and working in an Asian or international company as a regular employee. Students who wish to take this subject should consult the subject convener.

Content

Employment in a company or organisation in Asia.

Reading Materials

Subject to placement and to be advised on an individual basis.

HBI410 International Business Honours Dissertation

60 Credit Points  • 1 Semester (full-time)  •  Hawthorn  •  Prerequisite: HBI415 and HBI411  •  Teaching methods: Supervision  •  Assessment: Dissertation.

A subject in the Bachelor of Business (Honours).

Aims & Objectives

The student’s independent research work will be supervised by a suitably qualified member of Swinburne academic staff. The topic of the dissertation, while being set by the student, must be consistent with:

- The broad content of the discipline within which the research has been taken.
- The capacity of the student to realistically complete research into the topic in the prescribed time.

Content

Normally, a student will produce a written minor dissertation of between 10,000 and 15,000 words. The structure of the dissertation will be consistent with both the proposal developed in HBI411 Advanced Reading Unit and with the quality expectations that are carried with a work of this kind.

The dissertation will include:

- A statement of the issue.
- Hypothesis or problem.
- A current literature review.
- Cogent argument.
- Clear conclusions and if necessary, appropriate recommendations.

References

References will be discipline specific.

HBI411 International Business Advanced Reading Unit

20 Credit Points  • 1 Semester  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: Regular meetings with supervisor  •  Assessment: Written Honours Dissertation Proposal, Seminar Presentation of the Honours dissertation proposal, Literature Review.

A subject in the Bachelor of Business (Honours).

Aims & Objectives

To explore the breadth and depth of the area of study chosen by the student in a structured environment. To allow the student to use this exploratory approach as a means of arriving at a viable topic for their dissertation. Students undertaking the language component will be required to read part of the prescribed reading in the chosen language.

Content

A common core of prescribed reading in the area of study of both text and journal articles, and seminars on current business and social topics. The purpose of the readings, which will be allocated to individual students, is to engage the student in a critical appraisal of the material, and to develop their research instincts.

References

References will be discipline specific.
HBL111   Law in Global Business
12.5 Credit Points  •  1 Semester  •  3 Hours per Week  • Hawthorn  • Prerequisite: Nil  •  Teaching methods: Lecture and Tutorial  •  Assessment: Multiple choice test 25%; Final Examination 75%.
A subject in the Bachelor of Business.

Aims & Objectives
The aims of this subject are:
• To introduce students to basic legal concepts.
• To introduce students to important areas of business law including company, contract, tort and intellectual property law.
• To develop an understanding of the nature and function of law, in particular the inter-relationship of law, business and society.
• To introduce students to comparative and international aspects of business law.
• To develop an understanding of the relationship between law and business ethics.

Content
The subject begins with an introductory study of the concepts, techniques and institutions of the common law and civil law traditions. It then proceeds to two case studies on the role of the law in promoting business activity—one in the law of contract and the other in company law. Next, the role of law in controlling business activity is studied using case studies in tort and the Trade Practices Act.

References

HBL220   Contract Law
12.5 Credit Points  •  1 Semester  •  3 Hours per Week  • Hawthorn  • Prerequisite: HBL111  •  Teaching methods: Lecture and tutorial  •  Assessment: 2 Mid-Semester tests (25% each) 50%; Final Examination 50%.
A subject in the Bachelor of Business.

Aims & Objectives
To introduce students to the legal aspects of agreements, in particular those negotiated during the course of the establishment and conduct of businesses. Attention is also given to the legal repercussions of concluding an agreement (including the impact of statute) and breaching obligations undertaken.

Content
• Formation of contract.
• Terms of contracts.
• Validity of contract.
• Termination of contract and remedies.

References

HBL221   Company Law
12.5 Credit Points  •  1 Semester  •  3 Hours per Week  • Hawthorn  • Prerequisite: HBL111  •  Teaching methods: Lecture and Tutorial  •  Assessment: 2 Mid-Semester tests (25% each) 50%; Final Examination 50%.
A subject in the Bachelor of Business.

Aims & Objectives
To introduce students to basic legal concepts. To introduce students to important areas of business law including company, contract, tort and intellectual property law. To develop an understanding of the nature and function of law, in particular the inter-relationship of law, business and society. To introduce students to comparative and international aspects of business law. To develop an understanding of the relationship between law and business ethics.

Content
The subject begins with an introductory study of the concepts, techniques and institutions of the common law and civil law traditions. It then proceeds to two case studies on the role of the law in promoting business activity—one in the law of contract and the other in company law. Next, the role of law in controlling business activity is studied using case studies in tort and the Trade Practices Act.

References

HBL331   International Business Law
12.5 Credit Points  •  1 Semester  •  3 Hours per Week  • Hawthorn  • Prerequisite: HBL111  •  Teaching methods: Lecture and Tutorial  •  Assessment: Multiple Choice Test 30%, Seminar Paper and Presentation 20%, Final Examination 50%.
A subject in the Bachelor of Business.

Aims & Objectives
The general objective of this subject is to introduce students to the legal aspects of international business law.

Content
The emphasis of the subject is on the following topics:
• Introduction to international law concepts.
• Basics of international contracts.
• International sales of goods.
• International conventions.
• International treaties.
• International intellectual property.
• Vienna Sales Convention.
• Conflicts of laws.

References

HBL333   Finance Law
12.5 Credit Points  •  1 Semester  •  3 Hours per Week  • Hawthorn  • Prerequisite: HBL111  •  Teaching methods: Lecture and Tutorial  •  Assessment: 2 Mid-Semester tests (25% each) 50%; Final Examination 50%.
A subject in the Bachelor of Business.

Aims & Objectives
The general objective of this subject is to provide students with an understanding of the legal controls imposed on the manufacturing, labelling, packaging, distribution, promotion, pricing, and retailing of goods and (where applicable) services.

Content
Topics involved in this study are:
• The liability of manufacturers and retailers of goods at common law and under statutes.
• Proprietary interests in products.
• Advertising and promotion of goods and services.
• Restrictive trade practices.

References
Subject Details

- Legal framework of lending.
- Negotiable instruments.
- Securities.
- Remedies.
- Bankruptcy.
- Insolvency.

References

HBL410 Business Law Honours Dissertation
60 Credit Points • 1 Semester (full-time) • Hawthorn • Prerequisite: HBL415 and HBL411 • Teaching methods: Supervision • Assessment: Dissertation.
A subject in the Bachelor of Business (Honours).

Aims & Objectives
The student’s independent research work will be supervised by a suitably qualified member of Swinburne academic staff. The topic of the dissertation, while being set by the student, must be consistent with:
- The breadth of the discipline within which the research has been taken.
- The student’s capacity to complete research into the topic in the prescribed time.

Content
Normally, a student will produce a written, minor dissertation of between 10,000 and 15,000 words. The structure of the dissertation will be consistent with both the proposal developed in HBL411 Advanced Reading Unit and with the quality expectations that are carried with a work of this kind.
The dissertation will include:
- A statement of the issue.
- Hypothesis or problem.
- A current literature review.
- Cogent argument.
- Clear conclusions and if necessary, appropriate recommendations.

References
References will be discipline specific.

HBL411 Business Law Advanced Reading Unit
20 Credit Points • 1 Semester • Hawthorn • Prerequisite: Nil • Teaching methods: Regular meetings with Supervisor. • Assessment: Written Honours Dissertation Proposal, Seminar Presentation of the Honours dissertation proposal, Literature Review.
A subject in the Bachelor of Business (Honours).

Aims & Objectives
To explore the breadth and depth of the area of study chosen by the student in a structured environment. To allow the student to use this exploratory approach as a means of arriving at a viable topic for their dissertation. Students undertaking the language component will be required to read part of the prescribed reading in the chosen language.

Content
A common core of prescribed reading in the area of study of both text and journal articles, and seminars on current business and social topics. The purpose of the readings, which will be allocated to individual students, is to engage the student in a critical appraisal of the material, and to develop further their research instincts.

References
References will be discipline specific.

HBL528 Australian Company Law
12.5 Credit Points • 1 Semester • 5 Hours per Week taught in block mode. • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures and Class discussion of issues and problems. • Assessment: Assignments, Examinations.
A subject in the Graduate Diploma of Accounting.

Aims & Objectives
The objective of this course is to introduce students to basic legal concepts. In particular, students will be introduced to important areas of business law including company and contract law. Students will develop an understanding of the relationship between law, business and society. Students will be introduced to comparative and international aspects of business law.

Content
Topics studied include: concepts, techniques and institutions of common law, introduction to contract law, introduction to company law.

References
Content
- What is consumer behaviour and why study it.
- Analysis of specific behavioural models and the decisionmaking process.
- Market segmentation and positioning.
- Internal influences: perception, motivation, personality, learning, memory and attitudes.
- External influences: reference groups, adoption and diffusion processes, social class and culture.
- Other applications of consumer behaviour.
- Future scenarios.

Textbook

References

HBM222 Marketing Planning
12.5 Credit Points • 1 Semester • 2 Hours per Week • Hawthorn • Prerequisite: HBM110 • Teaching methods: Lecture, Tutorial and Field Work.

Aims & Objectives
The objective of this subject is to examine the concepts of planning and strategy in marketing, the role and methods of strategic analysis, as well as issues related to strategy formulation, implementation and control. It focuses on the marketing planning process as a key tool in an organisation’s interaction with its environment. This subject gives students the opportunity to acquire a working understanding of various methods of marketing planning and the ability to apply them in developing and implementing marketing strategies that respond to the challenges of the environment.

Content
- The state of marketing and planning.
- An integrated marketing planning model.
- Analysing environments including industry structure analysis.
- Generic competition strategies.
- The marketing program: strategies and elements.
- Implementation and control of plans: goals and procedures.
- Market potential and forecasting.
- Future scenarios.

Textbook

References

HBM223 Transnational Marketing
12.5 Credit Points • 1 Semester • 2 Hours per Week • Hawthorn • Prerequisite: HBM110 and HBM220 recommended. • Teaching methods: Lecture, Tutorial and Field Work • Assessment: Individual Assignment 20%, Group assignment 40%, Exam 40%.

Aims & Objectives
This subject aims to provide students with the knowledge to enable them to understand the concept of international marketing and how it fits within overall corporate structure and strategy. The subject will look at analysis of market/s and strategies for entry implementation of marketing. The specific objectives are to:
- Understand the key drivers for internationalisation and the forces of globalisation.
- Identify political and economic influences.
- Identify socio-cultural and technological influences.
- Develop an entrepreneurial feasibility study to internationalise a product or service.

Content
- PEST factors.
- International market research.
- International planning and marketing management.
- Market entry modes.
- Product/service strategy.
- Distribution strategy.
- Pricing strategy.
- Promotion strategy.
- Negotiation and personal selling.

Textbook

References
A subject in the Bachelor of Business.

**Aims & Objectives**

To provide students with an understanding of the new paradigms of marketing using the Web and associated technologies. The opportunities afforded by this new medium for small and medium enterprises, retailers, international marketers, product developers and researchers will be considered and issues associated with branding, communication strategy, and distribution channels will be addressed.

**Content**

- e-tailing.
- International internet marketing.
- Communication strategy on the WWW.
- Selling on the WWW.
- Market research strategies for the Internet and cybercommerce.
- The changing roles of intermediaries.
- Personalisation and customisation.
- New product development.
- Branding on the Internet.
- Future trends.

**Textbook**


**References**


Hanson, W., Principles of Internet Marketing, South-Western, Cincinnati, USA, 2000.


**HBM271** eCustomer Relationship Management

12.5 Credit Points  1 Semester  2 Hours per Week  Hawthorn  Prerequisite: HBM110 and HIT1025. Teaching methods: Lecture, computer lab, on-line resources. Assessment: Examination 40%, Major assignment 40%, Laboratory and on-line participation 20%. A subject in the Bachelor of Business.

**Aims & Objectives**

The concept of customer relationship marketing has been popular with business for some years. The advent of electronic marketing tools has provided an opportunity to considerably strengthen and develop the initial concepts and much more sophisticated methods of customer data management are emerging, with corresponding improvements in business efficiency and potential customer satisfaction. The scale and speed of change impacting on business over the past few years creates both challenges and opportunities. Exposure to frameworks facilitating the adaptability of business to these changes and their practical application are essential for creating and maintaining mutually rewarding relationships between business and the individual consumer.

**Content**

- Issues and implications of CRM.
- Growth of Data driven marketing (DDM) techniques.
- Implications for 'traditional marketing' techniques.
- Segmentation in the context of e-CRM.
- Inputs for DDM = data collection tools (lists, direct response marketing etc).
- Database development and maintenance.
- Utilising the marketing database.
- Creative marketing strategy for developing e-CRM
- Testing and measuring e-CRM programs.
- Issues with, and the future of, e-CRM.

**References**


**HBM272** eMarketing

12.5 Credit Points  1 Semester  2 Hours per Week  Hawthorn  Prerequisite: HBM110. Teaching methods: Lecture, computer lab, on-line resources. Assessment: Examination 50%, Major assignment 30%, Laboratory and on-line participation 20%.

**References**


**HBM330** Product Management

12.5 Credit Points  1 Semester  2 Hours per Week  Hawthorn  Prerequisite: HBM222 and HBQ 229. Teaching methods: Lecture, Tutorials and Group Meetings. Assessment: Tutorial participation/informal presentation 15%, Assignment 35%, Examination 50%. A subject in the Bachelor of Business.

**Aims & Objectives**

The objective of this unit is to enable students to apply their marketing knowledge to the particular area of product management. Within this broad unit objective, there are a number of specific objectives. These specific aims address the unit from a practical approach, that is to say, with a lesser emphasis on other approaches such as economic, technical, or purely creative. These areas are treated as contributory disciplines.

**Content**

- The relationship between marketing planning and product planning.
- The new product innovation charter.
- Overview of the new products process.
- Strategic planning for new products.
- The marketing mix and product management.
- Concept generation and evaluation.
- Success and failure factors.
- Commercialisation: product, price, communication and distribution issues.
- Product plan preparation.
- Product launch details.

**Textbook**


**References**


Various referred journal articles and business magazines and newspapers, as referred to from time to time in classes.

HBM331 Services Marketing and Management
12.5 Credit Points  • 1 Semester  • 2 Hours per Week  • Hawthorn  • Prerequisite: HBM222 and one other Stage 2 Marketing subject  • Teaching methods: Lecture, Tutorial and Practical Assignment  • Assessment: Class work 20%, Assignment 30%, Examination 50%.
A subject in the Bachelor of Business.

Aims & Objectives
The subject aims to provide students with an appreciation of the marketing and management of service businesses using both theoretical and practical approaches. Students who have completed the subject will be expected to have an understanding of the importance of the services sector in Australia and globally, the differences between product and services marketing and the specific problems of services marketing management, the interactive nature of services and the resulting issues that need to be faced by managers and the general skills required for the marketing of services.

Content
• The importance of services sectors in Australia and globally, and their specific characteristics.
• Service quality and customer expectations, perceptions and satisfaction.
• Managing service businesses, demand and supply.
• Internal marketing and technology in service delivery.
• Complaint behaviour and service recovery.
• Customer retention and relationship marketing.

Textbook

References

HBM333 Communications Strategy
12.5 Credit Points  • 1 Semester  • 2 Hours per Week  • Hawthorn  • Prerequisite: HBM222 and HBM223, and HBU229 recommended  • Teaching methods: Lecture, Tutorial and Field Work  • Assessment: Group Communication Plan 45%, Tutorial and online participation 15%, Examination 40%.
A subject in the Bachelor of Business.

Aims & Objectives
The aim of this subject is to enable students to apply their marketing knowledge to the specific areas of communication strategy. This subject examines the underlying process of integrated marketing communication – the principles that are involved in developing sound communication strategies and effective execution of these strategies. The Group Communication Plan is likely to be for a ‘real’ client.

Content
• Integrated Marketing Communication (IMC).
• The role of marketing communication models.
• Briefing communication agencies.
• Developing a communication strategy.
• Media strategy.
• Sales promotion.
• Publicity and public relations.
• Promotions on the web.
• Issues and trends in communication.

References


As a matter of course, students are expected to read the advertising industry trade journals and academic journals.

HBM339 Transnational Business Practices
12.5 Credit Points  • 1 Semester  • 2 Hours per Week  • Hawthorn  • Prerequisite: HBM223. Students should not undertake this subject if they have completed HBM338 Asian Pacific Business Practices  • Teaching methods: Lecture, Tutorial and Field Work  • Assessment: Group Case study 20%, Group Field Assignment 30%, Examination 50%.
A subject in the Bachelor of Business, Bachelor of Social Science and Bachelor of Arts.

Aims & Objectives
This subject aims to provide students with the knowledge to enable them to understand existing business environments. The general approach is from an Australian business point of view. The use of cultural models and theories will form the foundation of understanding. This subject also examines the business links and opportunities which may exist for Australian businesses and organisations.

Content
• Particular attention is paid to regional and sub-regional groupings based on economic and business factors.
• To provide an understanding of some important macro-environmental factors which affect the conduct of business in the major markets. Special attention is given to the political-legal environments and the social-cultural environments.
• To study and learn about the various business practices and cultures prevailing in the regions.

Specific topics will include:
• Europe as a market.
• Americas as a market.
• Asia as a market.
• Cultural clustering.
• Economic ties.
• Political ties.

Textbook

References
Irwin, H., Communicating with Asia, Allen & Unwin, St Leonards, Australia, 1998.
Lassere, P., Schutte, H., Strategies for Asia Pacific Beyond the Crisis, MacMillian Education Australia, South Melbourne, 1999.

HBM341 Business Strategy
12.5 Credit Points  • 1 Semester  • 2 Hours per Week  • Hawthorn  • Prerequisite: A capstone subject in the Marketing major or Management major; students must have completed HBM222 and one Stage 2 Marketing or HRM/08 subject  • Teaching methods: Lecture, Tutorial and Field Work  • Assessment: Individual Tutorial Work 30%, Individual Assignments and Group Work 70%.
A subject in the Bachelor of Business.

Aims & Objectives
This is an interdisciplinary subject involving teaching staff representing the accounting discipline, human resource management and marketing staff.

Students in this subject are given a practical understanding of how the strategic planning process works, how corporate objectives are developed and how these are translated into strategic plans.

Content
• The state of business strategy in contemporary competitive environments.
• The importance of monitoring external trends and events.
• The understanding of key interrelationships among internal functional areas of business.
• The importance and difficulties of implementation of strategies as well as measuring their effectiveness.
HBM370  eCommerce: A Management Perspective

12.5 Credit Points  • 1 Semester  • 2 Hours per Week  • Hawthorn  • Prerequisite: HBM370  • Teaching methods: Lecture, computer lab, on-line resources.  • Assessment: Examination 40%, Major assignment 40%; Laboratory and on-line participation 20%.  
A subject in the Bachelor of Business.

Aims & Objectives
The exciting new developments in business facilitated by the rise of technologies such as the Internet, World Wide Web, and relational database systems, need to be properly understood in their business context, so they can be used to best effect by marketers. The fundamental drivers of eBusiness will be investigated, and the implications of this understanding will be used to develop strategies for managing the business of the future in a profitable, ethical and effective way. Students will gain an understanding of how to be effective users and managers of the new technologies and their capabilities.

Content
• Business process re-engineering.
• Legal issues.
• Ethical issues.
• Organisational integration.
• Change management.
• Drivers of cybercommerce.
• Technological issues.
• Strategic planning for cybercommerce.
• Implementation strategies and project management.
• Future trends.

References
Plus electronic and Internet resources as advised.

HBM410  Marketing Honours Dissertation

80 Credit Points  • 1 Semester (full-time)  • Hawthorn  • Prerequisite: HBM415 and HBM411  • Teaching methods: Supervision  • Assessment: Dissertation.  
A subject in the Bachelor of Business (Honours).

Aims & Objectives
The student’s independent research work will be supervised by a suitably qualified member of Swinburne academic staff. The topic of the dissertation, while being set by the student, must be consistent with:
• The broad content of the discipline within which the research has been taken.
• The student’s capacity to complete research into the topic in the prescribed time.

Content
Normally, a student will produce a written, minor dissertation of between 10,000 and 15,000 words. The structure of the dissertation will be consistent with both the proposal developed in HBM411 Advanced Reading Unit and with the quality expectations that are carried with a work of this kind.

The dissertation will include:
• A statement of the issue.
• Hypothesis or problem.
• A current literature review.
• Cogent argument.
• Clear conclusions and if necessary, appropriate recommendations.

References
References will be discipline specific.
References

HBM421 Market Behaviour
12.5 Credit Points • 1 Semester • 2.5 Hours per Week • Hawthorn • Prerequisite: Nil
- Teaching methods: Seminar approach, combining lectures with discourse.
- Assessment: Group assignment 50%, Individual assignment 50%.

Aims & Objectives
- To develop students’ understanding of marketing as a social practice.
- To broaden students’ knowledge from the microscopic focus on the consumer’s behaviour in the exchange process and consider the behaviour of both the buyer and seller.
- To broaden students’ knowledge beyond existing marketing management and give them an understanding of the full implications of social exchange for marketing practices.
- To understand the evolutionary development of marketing practices and its drivers.
- To position current practices in their cultural, technological and economic milieu.
- To analyse marketing environments and develop innovative and appropriate marketing practices.
- To be able to integrate multi-disciplinary contributions to marketing into a conceptual model.

Content
- What is an exchange?
- Why is it the fundamental element of marketing behaviour?
- How do actors in an exchange adapt and influence in order to achieve a valued outcome?
- How has the exchange evolved over time and how are contemporary social entities reliant on the exchange process?
- What is the likely future of exchange and how will it impact on marketing strategy and behaviour?

Topics covered:
- Exchange: The basic unit of marketing theory.
- Impacts on the exchange process.
- Definition.
- Evolution.
- Social structures in exchange.
- Markets, Traders, Groups, Corporations.
- Approaches to exchange: Games Marketers Play.
- Auctions, Negotiation, Tenders.
- Take it or leave it/ Influence & the 7Ps.
- Arbitration, Compliance in exchange.
- Ethics.

References

HBM422 Marketing Information for Decision Making
12.5 Credit Points • 1 Semester • 2.5 Hours per Week • Hawthorn • Prerequisite: Nil
- Teaching methods: Seminar approach, combining lectures and discourse.
- Assessment: Group assignment 30%, Individual assignment 35%, Examination 35%.

Aims & Objectives
To introduce students to the theoretical and practical aspects of collecting marketing information for decision making using marketing research tools. Emphasis will be on the current business environment (both in Australia and internationally) and the planning, collection, analysis and use of marketing information to help managers and business identify and solve problems. This will include both exploratory and conclusive research designs, incorporating a variety of techniques. Emphasis will be not only on the processes involved, but also on the different kinds of information needed to make sound managerial decisions, for both routine and project specific needs.

Content
- Understanding the importance of research for the marketing management process.
- Translating management problems into marketing research problems.
- Using secondary data as a useful management information tool.
- Understanding the ethics involved in the marketing research industry.
- Understanding the different types of qualitative and quantitative research designs that are available to collect the information for solving management problems.
- Developing basic questionnaire design skills.
- Developing the ability to conduct fieldwork.
- Understanding the errors involved in the research process.
- Developing professional report writing skills.

References

HBM423 Marketing Planning
12.5 Credit Points • 1 Semester • 2.5 Hours per Week • Hawthorn • Prerequisite: Nil
- Teaching methods: Seminar approach, combining lectures with discourse.
- Assessment: Group Assignment 40%, Individual Assignment 15%, Exam 45%.

Aims & Objectives
To give students an understanding of:
- The concrete benefits to be gained from marketing planning.
- The conceptual tools of environmental analysis.
- The skills in the application of the tools in practical analysis of actual situations.
- The environment of their own organisations by applying their knowledge and skills.
- The global and local trends in marketing planning.
- The financial factors and legal controls on marketing planning.
- The financial factors in, and the legal controls on, marketing planning.

Content
- Why plan?
- How planning works in different industries.
- Generic planning structures.
- Exposition and rationale of the key elements of a marketing plan.
- The financial framework for planning.
- Cost concepts, cost behaviour and cost estimation, short-term budgeting, cost/ volume/profit analysis.

References
• The planning process in detail 1: Where are we now?
• The planning process in detail 2: Where do we want to go? - Global and local trends, industry-level analysis.
• The planning process in detail 3: What are the legal issues? - Legal controls on promotion and on distribution and pricing decisions.
• The planning process in detail 4: How are we going to get there? - Implementation. Planning in practice – Application of the theoretical structure to a real issue.
• Generic marketing strategies.

References

HBM520 Trends in Marketing
12.5 Credit Points • 30 Hours • 5 x 3 Hour Seminars plus 15 Hours for Management Simulation • Hawthorn • Prerequisite: For students enrolled in the Graduate Diploma of Business (Marketing): A minimum of at least a major in Marketing in an undergraduate degree plus two years in industry. For students taking this subject as an elective in another postgraduate course. Nil • Teaching methods: Seminar Series, Management Simulation • Assessment: Work related project 60%, Management Simulation 40%.

Aims & Objectives
This is a compulsory introductory subject for students enrolling directly into the Graduate Diploma of Business (Marketing). It will provide a grounding in marketing concepts which will prepare students for the other subjects in the Graduate Diploma. It aims to provide students with up to date information about trends in marketing and show them how these can be applied to their own workplace/situation. It will give students an understanding of the interaction and complexity of marketing in business situations via a simulation (using a management game).

Content
Five topics will be chosen in accordance with market needs. The exact topics will be determined closer to subject commencement. A selection of possible topics are:
• Customer Service/Satisfaction: Service quality, measurement, customer charters.
• Branding as a Strategy: The power of branding, housebrands, case studies.
• Green Marketing: Consumer issues, other stakeholders, ISO 14000 series.
• Ethics in Marketing: Societal views of marketing, accountability, issues such as corruption.
• Relationship Marketing: Where it fits in marketing and tools to use.
• Electronic Marketing: An overview of electronic markets, consumers, services, challenges.
• Benchmarking: Use of benchmarking to develop more effective marketing.
• Total Quality Marketing: Use of quality as a competitive marketing tool.

References
The reference list provided gives an overview of publications in the areas and is indicative of the main works in text form. As this is a ground breaking subject it is likely that there will be other references from contemporary journal articles.

Customer Service/Satisfaction:

Branding as a Strategy:

Tauber, E., Brand Franchise Extension: New Product Benefits from Existing Brand Names, Business Horizons, 47 March - April, pp 36-41.
Tup 100 Brands, Retail World Pty Ltd, 1994.

Green Marketing:

Ethics in Marketing:

Relationship Marketing:

Electronic Marketing:

Benchmarking:

Total Quality Marketing:

HBM521 Project Management
12.5 Credit Points • 1 Semester • 2.5 Hours per Week • Hawthorn • Prerequisite: For students enrolled in the Graduate Diploma of Business (Marketing). All subjects in the Graduate Certificate of Business (Marketing) or HBM520 Trends in Marketing. For students taking this subject as an elective in another postgraduate course. Nil • Teaching methods: Seminar approach, combining lectures, labs, discourse and experiential learning. • Assessment: Individual assignment 40%, Reflective journal 20%, Group assignment 40%.

Aims & Objectives
Businesses regularly use project management to apply to ongoing operations or one-off projects. These may be managed internally or externally by consultants. The aim of this subject is to introduce students to project management and provide students with the tools and techniques required to successfully manage a project in order to meet or exceed stakeholder needs and expectations. Students will be shown how to apply these skills on a local and global basis. This subject is useful in many business contexts, whether setting up of a new business, a private or public company, private or public.
government institution or even a non-profit organisation. Project management is also useful for individuals wishing to set up their own business.

**Content**
- Project organisation and planning.
- Role of Project Manager.
- Scope, time and cost management.
- Scheduling and resource allocation.
- Budgeting and cost estimation.
- Human resource management incorporating organisational planning, staffing, team development and communication.
- Project control and quality management.

**References**

**HBM522 Customer Relationship Management**

12.5 Credit Points • 1 Semester • 2.5 Hours per Week • Hawthorn • Prerequisite: For students enrolled in the Graduate Diploma of Business (Marketing): All subjects in the Graduate Certificate of Business (Marketing) or HBM520 Trends in Marketing. For students taking this subject as an elective in another postgraduate course: Nil • Teaching methods: Seminar approach combining lectures with discussion • Assessment: Project(s), Seminar Presentation, Class Work

A subject in the Graduate Diploma of Business (Marketing).

**Aims & Objectives**
This subject aims to expose participants to the rapid changes evident in industry today regarding the development and management of customer relationships. Participants will be exposed to frameworks that facilitate the adaptability of business to these changes. Practical application of the techniques aimed at creating and maintaining mutually rewarding relationships between businesses and individual consumers will be explored.

**Content**
- What is CRM and its relative importance to business?
- Issues and implications of CRM.
- Growth of Data driven marketing (DDM) techniques.
- Implications for ‘traditional marketing’ techniques.
- Segmentation in the context of CRM.
- Data collection tools (lists, direct response marketing etc).
- Database development and maintenance.
- Utilising the marketing database.
- Creative marketing strategy for developing CRM.
- Accountability and CRM programs.
- Privacy and related issues.
- Trends for the future of CRM.

**References**

**HBM523 eMarketing**

12.5 Credit Points • 1 Semester • 2.5 Hours per Week • Hawthorn • Prerequisite: For students enrolled in the Graduate Diploma of Business (Marketing): all subjects in the Graduate Certificate of Business (Marketing) or HBM520 Trends in Marketing. For students taking this subject as an elective in another postgraduate course: Nil • Teaching methods: Seminar approach, combining lectures with discussion • Assessment: To be advised.

A subject in the Graduate Diploma of Business (Marketing) and an elective in the Master of Multimedia.

**Aims & Objectives**
- To familiarise students with the emerging world of e-business and the marketing potential associated with it.
- To consider how existing and new brands can be marketed electronically for optimum benefit.
- To develop awareness of the impact the new technology will have on customer relations, pricing, quality assurance, fulfillment, etc.
- To develop an understanding of where marketing fits into the new business paradigm.

**Content**
- The digital world of business: Structural transformations required, the new paradigms of management.
- Design of ebusiness: From segments to individual customers.
- Business models on the Web: integrating applications in a customer-focused way, web benefits to business, closed loop marketing.
- Customer support and online quality: Improved quality with lower costs.
- Word of mouth: The online community.
- Pricing online: Sensitivity to price on the Net, interaction between time and price.
- eCommerce: Where marketing fits into the new business paradigm, buying and distribution.
- Marketing planning for the Net: Implementation strategies and issues.
- Branding on the Internet: Transferring existing brands to the Net, starting new brands, building traffic by other means.

**Textbook**

**References**
Hanson, W., *Principles of Internet Marketing*, South-Western, Cincinnati, USA, 2000.
Plus electronic and Internet resources as advised.

**HBM524 Marketing Strategy**

12.5 Credit Points • 1 Semester • 2.5 Hours per Week • Hawthorn • Prerequisite: For students enrolled in the Graduate Diploma of Business (Marketing): All subjects in the Graduate Certificate of Business (Marketing) or HBM520 Trends in Marketing. For students taking this subject as an elective in another postgraduate course: Nil • Teaching methods: Seminar approach, combining lectures with discussion • Assessment: Individual Assignment 25%, Group Case Study Development and Analysis 25%, Individual Organisational Analysis 50%.

A subject in the Graduate Diploma of Business (Marketing).

**Aims & Objectives**
This subject will provide an appreciation of the various issues that are currently significant in developing strategy. It will help students to develop the ability to monitor and manage those aspects of running a business that affect competitive position and structure the company accordingly. This subject begins with an examination of mission,
vision and objectives. After this, the concepts of entrepreneurship and innovation are reviewed.

Content
The subject uses the model of seven traits of successful (Innovative) organisations as developed by Schumann et al (1994). These traits are:

- Customer driven.
- Technology driven.
- Competitor driven.
- Stakeholder driven.
- Project driven.
- Resource driven.
- Culture driven.

The subject also looks at change management as a tool to integrate the previous learning.

References

As no single text covers all the issues, students are expected to do most of their reading from current journals.

HBM526 Information Analysis
12.5 Credit Points • 2.5 Hours per Week • Hawthorn • Prerequisite: For students enrolled in the Graduate Diploma of Business (Marketing). All subjects in the Graduate Certificate of Business (Marketing) or HBM520 Trends in Marketing. For students taking this subject as an elective in another postgraduate course: Nil. • Teaching methods: Seminar approach, combining lectures with discourse. • Assessment: Group assignment 40%, Individual assignment 50%, Class participation 10%.
A subject in the Graduate Diploma of Business (Marketing).

Aims & Objectives
Gaining and maintaining competitive advantages is often dependant on having the ability to transform data into information. Data may be obtained from primary and secondary research using contemporary or more traditional methods. Forms and mediums this may utilise include commissioned market research, organisation gathered primary data, statutory body and government collected data and researched secondary information – referenced, un-referenced and anecdotal. This subject will facilitate the understanding of local and global trends which are essential for informed decision making. Techniques are presented which can be used to transform data into information about people and customers, businesses and institutions, the products and services they provide and ultimately to assist in forecasting future needs.

The emphasis will be on practical applications of statistical and analytical techniques by analysing case studies and considering market modelling procedures applicable to today's business environment.

Content
- Data capture methods.
- International marketing and marketing research data sources.
- Understanding demographic techniques.
- Advanced demographic analysis techniques.
- Use of unit record files.
- Data analysis techniques and statistical procedures.
- Making strategic decisions.

References
CDATA@, Australian Bureau of Statistics.
ABS Social Indicators.

HBM527 Marketing Engineering
12.5 Credit Points • 1 Semester • 2.5 Hours per Week • Hawthorn • Prerequisite: For students enrolled in the Graduate Diploma of Business (Marketing). All subjects in the Graduate Certificate of Business (Marketing) or HBM520 Trends in Marketing. For students taking this subject as an elective in another postgraduate course: Nil. • Teaching methods: Computer laboratories/simulations, seminars, case studies. • Assessment: Research Assignment 50%, One practical workplace related project 50%.
A subject in the Graduate Diploma and Master of Business (Marketing).

Aims & Objectives
This subject exposes marketing students to marketing operations systems design. It introduces students to the management of marketing from a marketing operations perspective.

Content
- Marketing outputs and activities/Marketing as an action based process.

References
Barney, J., Gaining and Sustaining Competitive Advantage, Addison-Wesley, 1997.
CDATA@, Australian Bureau of Statistics.
Aims & Objectives

Students will have:

- An understanding of innovation and entrepreneurship and how it relates to marketing.
- Some exposure to entrepreneurial/innovation models from case studies.
- Some tools to apply such behaviour to their own workplace.

Content

- The role of entrepreneurship.
- Forms of entrepreneurship.
- The entrepreneurial organisation.
- Entrepreneurial behaviour in marketing.
- Entrepreneurship issues.
- Entrepreneurship in Australia.
- Entrepreneurial risk.
- Types of innovation.
- Innovative behaviour in marketing.
- Innovation issues.
- When Management views of the future are faulty.
- Innovation in Australia.
- Characteristics of successful innovators.
- Targeting innovation efforts.
- Characteristics of innovation and adoption.
- Application of market-driven innovation.
- Innovation plans.
- Building an innovative organisation.

References

HBM621  Advanced Reading Unit
12.5 Credit Points  • 1 Semester  • 30 Hours in Block Mode  •  Hawthorn  • Prerequisite: All subjects in the Graduate Diploma of Business (Marketing).  •  Teaching methods: Seminars and personal supervision.  •  Assessment: Seminar presentation 50%, Research proposal 50%.
A subject in the Master of Business (Marketing).
Aims & Objectives
• To assist students in exploring the breadth and depth of an area and give a critical appreciation of the available journal literature.
• To assist students in arriving at a viable topic for their dissertation (Action Research Project).
Content
Students will be required to read a common core of prescribed texts and journal articles as well as texts and journal articles specific to the area of their dissertation (Action Research Project).

HBM622  Action Research Project
25 Credit Points  • 2 Semesters  • Variable  • Hawthorn  • Prerequisite: Completion of the Graduate Diploma of Business (Marketing). It is also highly recommended that students have completed either HBM625 Marketing Decision Tools, HBM626 Information Analysis or HBM620 Research Methodology.  •  Teaching methods: Seminar approach and personal supervision.  •  Assessment: 25,000 – 30,000 word research report.
A subject in the Master of Business (Marketing).
Aims & Objectives
The subject aims to develop the management capabilities of participants through their engagement in a real organisation project/issue, which contributes to their organisation's improvement.
The fundamental approach taken is that of Action Learning. Participants will be engaged in developing their own management capabilities and their knowledge of effective management through engaging in marketing/management action and systematically reviewing that action.
Content
Participants will select one organisational marketing issue in consultation with their organisation and the subject convenor. The project will need to cater for both the participant's personal development needs as well as the organisation's needs.
The participant's learning needs and the organisation's requirements will be set out in a Learning Contract. This will identify the nature of the issue, the organisation's objectives, the participant's personal learning objectives, timelines, action plans and reflection and review arrangements.
Participants will meet together regularly with one another and with a staff member in an Action Learning group to review their progress and reflect upon the nature of management action and consider this in light of others' experience and relevant academic literature.
Concurrently each participant will maintain a diary as a means of arriving at a viable topic for their dissertation. Students undertaking the Action Research Project will be required to carry out part of the prescribed reading in the chosen language component will be required to read part of the prescribed reading in the chosen language.

HBM623  Integrating Project in Marketing
12.5 Credit Points  • 1 Semester  • 2.5 Hours per Week  •  Hawthorn  • Prerequisite: Completion of the Graduate Diploma of Business (Marketing). It is also highly recommended that students have completed either HBM625 Marketing Decision Tools, HBM626 Information Analysis or HBM620 Research Methodology.  •  Teaching methods: Seminars/Project  •  Assessment: Research Proposal and Project.
A subject in the Master of Business (Marketing).
Aims & Objectives
The Integrating Project draws on the subjects in the Master of Business (Marketing). By the end of the project, students will have developed a systematic approach to an organisational marketing issue, problem or opportunity, and extended their capabilities in the area of problem definition, problem research, analysis, evaluation and recommended action plans.

HBMG410  Management Honours Dissertation
60 Credit Points  • 1 Semester (full-time)  •  Hawthorn  • Prerequisite: HBG415 and HBMG411  •  Teaching methods: Supervision  •  Assessment: Dissertation.
A subject in the Bachelor of Business (Honours).
Aims & Objectives
The student’s independent research work will be supervised by a suitably qualified member of Swinburne academic staff. The topic of the dissertation, while being set by the student, must be consistent with:
• The broad content of the research discipline.
• The student’s capacity to realistically complete research into the topic in the prescribed time.
Content
Normally, a student will produce a written minor dissertation of between 10,000 and 15,000 words. The structure of the dissertation will be consistent with both the proposal developed in HBMG411 Advanced Reading Unit and with the quality expectations that are carried with a work of this kind. The dissertation will include:
• A statement of the issue.
• Hypothesis or problem.
• A current literature review.
• Cogent argument.
• Clear conclusions and if necessary, appropriate recommendations.
References
References will be discipline specific.

HBMG411  Management Advanced Reading Unit
20 Credit Points  • 1 Semester  •  Hawthorn  • Prerequisite: Nil  •  Teaching methods: Regular meetings with Supervisor  •  Assessment: Written Honours Dissertation Proposal, Seminar Presentation of the Honours dissertation proposal, Literature Review.
A subject in the Bachelor of Business (Honours).
Aims & Objectives
To explore the breadth and depth of the area of study chosen by the student in a structured environment. To allow the student to use this exploratory approach as a means of arriving at a viable topic for their dissertation. Students undertaking the language component will be required to read part of the prescribed reading in the chosen language.
Content
A common core of prescribable reading in the area of study of both text and journal articles, and seminars on current business and social topics. The purpose of the readings, which will be allocated to individual students, is to engage the student in a critical appraisal of the material, and to develop their research instincts.
References
References will be discipline specific.

HBP228  Manufacturing Management 1
12.5 Credit Points  • 1 Semester  • 2 Hours per Week  •  Hawthorn  • Prerequisite: Nil  •  Teaching methods: Lecture and Tutorial  •  Assessment: Assignments (two) 80%, Class Test 20%.
A subject in the Bachelor of Business and Bachelor of Engineering (Manufacturing).
Aims & Objectives
This subject reviews integrated manufacturing systems and the manufacturing management function—production, production planning and control, maintenance, quality control, etc.

Content
This subject covers the relationship between manufacturing and other organisational functions in the company, the application of analytical techniques relevant to production, and related functions such as market forecasting, scheduling and materials requirement planning. The 5 Ps of Japanese manufacturing technique, VAM, world class manufacturing, JIT production system and Inventory Decision Models.

References

HBP336 Manufacturing Management 2
12.5 Credit Points • 1 Semester • 2 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture and Tutorial • Assessment: Assignments (2) 80%, Class Test 20%.
A subject in the Bachelor of Business.

Aims & Objectives
This subject develops the undertaking of Quality Management and outlines the implementation of Total Quality Management in the Australian context.

Content
A course focusing on the requirements of total quality management within an enterprise. The stages of quality progression are developed within a practical context from buyer beware, through corrective, preventive and cost based quality, to the requirements of serving the customer chain. Current quality demands on industry are reviewed and evaluated for impact on management systems. This subject also covers the definition of quality, and competing through the dimensions of quality. The steps to ISO 9000:2000 accreditation and benchmarking are also discussed.

References
Australian Standards on Quality System ISO 9000:2000

HBP337 Managing Technology and Innovation
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HBP336 • Teaching methods: Lecture and Tutorial • Assessment: Assignments (2) 80%, Class Test 20%.
A subject in the Bachelor of Business.

Aims & Objectives
This subject develops an understanding of technology strategy in relation to 'product' (device, service or process) and process innovation, value chains, competitive reaction, barriers to market entry, intellectual property protection and an international perspective on converting a good idea/opportunity into a productive commercial success.

Content
A course focusing on the requirements of total quality management within an enterprise. The stages of quality progression are developed within a practical context from buyer beware, through corrective, preventive and cost based quality, to the requirements of serving the customer chain. Current quality demands on industry are reviewed and evaluated for impact on management systems. This subject also covers the definition of quality, and competing through the dimensions of quality. The steps to ISO 9000:2000 accreditation and benchmarking are also discussed.

References
Australian Standards on Quality System ISO 9000:2000

HBP410 Manufacturing Management Honours Dissertation
60 Credit Points • 1 Semester (full-time) • Hawthorn • Prerequisite: HBP415 and HBP411 • Teaching methods: Supervision • Assessment: Dissertation.
A subject in the Bachelor of Business (Honours).

Aims & Objectives
The student's independent research work will be supervised by a suitably qualified member of Swinburne academic staff. The topic of the dissertation, while being set by the student, must be consistent with:
- The broad content of the research discipline.
- The student's capacity to complete research into the topic in the prescribed time.

Content
Normally, a student will produce a written minor dissertation of between 10,000 and 15,000 words. The structure of the dissertation will be consistent with both the proposal developed in HBP411 Advanced Reading Unit and with the quality expectations carried with a work of this kind.

The dissertation will include:
- A statement of the issue.
- Hypothesis or problem.
- A current literature review.
- Cogent argument.
- Clear conclusions and if necessary, appropriate recommendations.

References
References will be discipline specific.

HBP411 Manufacturing Management Advanced Reading Unit
20 Credit Points • 1 Semester • Hawthorn • Prerequisite: Nil • Teaching methods: Regular meetings with Supervisor • Assessment: Written Honours Dissertation Proposal, Seminar Presentation of the Honours dissertation proposal, Literature Review.
A subject in the Bachelor of Business (Honours).

Aims & Objectives
To explore the breadth and depth of the area of study chosen by the student in a structured environment. To allow the student to use this exploratory approach as a means of arriving at a viable topic for their dissertation. Students undertaking the language component will be required to read part of the prescribed reading in the chosen language.

Content
A common core of prescribed reading in the area of study of both text and journal articles, and seminars on current business and social topics. The purpose of the readings, which will be allocated to individual students, is to engage the student in a critical appraisal of the material, and to develop further their research instincts.

References
References will be discipline specific.

HBO229 Marketing Research
12.5 Credit Points • 1 Semester • 2 Hours per Week • Hawthorn • Prerequisite: HBO110, HBO111 or HBO111 (equivalent) • Corequisites: HBO220 and HBO221 • Teaching methods: Lecture and Tutorial • Assessment: Case Study 10%, Assignments 45%, Examination 45%.
A subject in the Bachelor of Business.

Aims & Objectives
The main focus of this subject is to develop in students an understanding of the market research process, with the goal of enabling students to make informed decisions about the benefits and uses of Market Research. It does this by teaching students about the marketing research process and methods, and also, by teaching them how to analyse and interpret an SPSS data base.

Content
The course consists of 5 parts:
- Understanding the nature of the marketing problem and the ethics involved in Marketing Research.
- Developing the most appropriate research design to address different research situations.
The dissertation will include:

- Introduction to research methodology.
- Selection and definition of a problem.
- Preparation and evaluation of research proposals.
- Selection of a sample.
- Selection of a measuring instrument.
- Selection and evaluation of qualitative and quantitative research methods.
- Data analysis and interpretation.
- Preparation of a research report.
- Research critiques.

Textbook

References
- Develop skills in sourcing new venture ideas.
- Develop skills in market evaluation for new technology.
- Understand financing and supply chain for new projects.
- Understand operational system design and implementation for new ventures.
- Know sources of information and assistance for new ventures.
- Develop an analytical and strategic perspective to the operation of new business ventures.
- The strategies required to design and produce internationally competitive goods and services.
- The strategies required to market new goods and services in local and international markets.

**Content**

- Introduction and Outline.
- Defining Entrepreneurialism.
- Historical Development of Entrepreneurial Practice.
- Business License Information Sources/Business Structures.
- People: Selection and Recruitment.
- Dealing with Partners and Associates.
- Finance, Taxation and Investors.
- Operational issues in Start-Ups-Structure and Relationships.
- Building new markets.
- Ongoing Management Issues: Handling Growth.
- Getting Investors Out/Public Listing.

**References**


*Selected Case Studies.*

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**HBSH100 Behaviour and Communication in Organisations**

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil •
Teaching methods: Lectures, Laboratory • Assessment: Class exercises, Group Work, Oral Presentation, Report, Journal Writing.

A subject in the Bachelor of Information Technology.

**Aims & Objectives**

- To provide students with an understanding of the nature and importance of communication, interpersonal skills, and group development to members of organisations.
- To build fundamental academic skills including written and verbal communication, presentation, reference skills, intellectual independence, analysis, synthesis, research, transfer of learning from one situation to another.
- To develop students’ interpersonal and social skills as team members in today’s changing organisations.
- To allow students to experiment with various techniques, theories, and approaches to communication and management through the use of experiential teaching techniques.
- To prepare students to appreciate the context of work and their own roles as organisation members, especially in the global context.
- To provide a foundation for subsequent studies.

**Content**

- Introduction to Communication.
- Research.
- Report writing.
- Oral Presentations.
- Interviewing skills.
- Groups and communication.
- Group dynamics/team work.
- Perception/self disclosure.
- Anger, stress and managing feelings.

- Conflict.
- Negotiation.

**References**

To be advised.

**HBSH200 Organisation Behaviour**

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: HBSH100 • Teaching methods: Lectures, Laboratory sessions • Assessment: Class exercises, Journal Writing, Presentations, IBL Journal.

A subject in the Bachelor of Information Technology.

**Aims & Objectives**

- To enable students to apply the theory and skills of organisation behaviour and to transfer them into an IT environment.
- To enable students to develop a perspective which demonstrates the place of IT in the total organisation.
- To establish an understanding of themselves, their impact on others and the way others influence their behaviour.
- To allow students to experience the satisfactions and difficulties inherent in working in groups.
- To learn behavioural skills applicable to IT environments.
- To analyse and provide solutions for people/technology problems.
- To enable students to appreciate the changing nature of work in an increasingly global context.
- To apply organisational behaviour knowledge to, and further learn from, industry based learning experiences.

**Content**

- The context of work and change in organisations.
- Organisational socialisation.
- Group dynamics and team performance.
- Managing intergroup relations.
- Diversity in organisations.
- Motivation.
- Leadership.
- Organisational culture and change.
- Power and influence.
- Personal growth and career development.
- Managing presentations.

**References**

To be advised.

**HBSH400 Administration and Management**

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: HBSL200 • Teaching methods: Lectures/Presentations/Discussion Groups • Assessment: Assignments, Final Examination, Group Presentation.

A subject in the Bachelor of Health Science (Environmental Health Management) and Bachelor of Health Science (Public and Environmental Health).

**Aims & Objectives**

- To further develop an understanding of the application of Administrative Law essential to good management techniques.
- To develop an understanding of the origins and workings of Administrative Law. A general examination of administrative and decision-making processes on both the federal and state levels with emphasis placed on the state jurisdiction.
- To understand the review process both on the basis of merits review and judicial review by examining the circumstances in which each takes place by way of challenge.
- To examine the circumstances where decisions are challenged on the basis of denial of justice.
- To develop an understanding of the nature and behaviour of organisations.
- To examine the characteristics and role of management.
- To understand the culture of change.
Content
- To develop an understanding of the processes of legislative administration relating to public health and environmental protection.
- To develop an understanding of civil and criminal proceedings, laws of evidence, appropriateness of courts, powers of courts.

Content
- A review of the principles of effective communication applicable to the work setting, including risk communication, conflict resolution, stress management. Barriers to good communication, including ethnicity and culture, with an emphasis on ensuring appropriate message transmission, delivery and receipt.
- Development of written skills, report writing requirements of large organisations.
- Letters and electronic data transfer.
- Ethical issues.
- The framework of environmental health laws.
- The Environment Protection Act.
- The Environment Protection Authority.
- Public health powers and controls of the Local Government Act.
- The legal process of prosecution. Ambiguous allegations, rules and proof of service. Time limits, adjournment.
- The rules of evidence, statutory and judicial developments, burden and standards of proof, hearsay, documents, admissions, improperly obtained evidence. Witnesses.
- Sampling and entry powers of authorised officers under Health, Food and Environment Protection Acts.
- Problems caused by the concept of legal personality with corporate defendants.

Reading Materials

HBT410 Information Systems Honours Dissertation
60 Credit Points • 1 Semester • Hawthorn • Prerequisite: HBT415 and HBT411 • Teaching methods: Supervision • Assessment: Dissertation.
A subject in the Bachelor of Business (Honours).

Aims & Objectives
The student’s independent research work will be supervised by a suitably qualified member of Swinburne academic staff. The topic of the dissertation, while being set by the student, must be one consistent with:
- The broad content of the discipline within which the research has been taken.
- The capacity of the student to realistically complete research into the topic in the prescribed time.

Content
Normally, a student will produce a written minor dissertation of between 10,000 and 15,000 words. The structure of the dissertation will be consistent with both the proposal developed in HBT411 Advanced Reading Unit and with the quality expectations of a work of this kind.
The dissertation will include:
- A statement of the issue.
- Hypothesis or problem.
- A current literature review.
- Cogent argument.
- Clear conclusions and if necessary, appropriate recommendations.

References
References will be discipline specific.

HBT411 Information Systems Advanced Reading Unit
20 Credit Points • 1 Semester • Hawthorn • Prerequisite: Nil • Teaching methods: Regular meetings with Supervisor. • Assessment: Written Honours Dissertation Proposal, Seminar Presentation of the Honours dissertation proposal, Literature Review.
Aims & Objectives
To explore the breadth and depth of the area of study chosen by the student in a structured environment. To allow the student to use this exploratory approach as a means of arriving at a viable topic for their dissertation. Students undertaking the language component will be required to read part of the prescribed reading in the chosen language.

Content
A common core of prescribed reading in the area of study of both text and journal articles, and seminars on current business and social topics. The purpose of the readings, which will be allocated to individual students, is to engage the student in a critical appraisal of the material, and to develop further their research instincts.

References
References will be discipline specific.

HCE600 Introduction to Pavements
12.5 Credit Points • 1 Semester or equivalent short course mode • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Examinations.
A subject in the Graduate Certificate of Engineering in Pavement Technology, Graduate Diploma of Engineering in Pavement Technology and Master of Engineering in Pavement Technology.
Aims & Objectives
- To enable the student to identify and qualitatively assess the most important factors affecting the structural behaviour of road pavements.
- To qualify the student to select appropriate materials for road pavements under different operating environments.
- To enable the student to correctly specify performance requirements for road construction projects.
- To enable students to recognise the failure modes of materials and pavement layers treated with cement.
- To enable the student to understand the changes to asphalt mix design arising from performance related test procedures.
- To enable the student to apply the principles of maintenance management to road infrastructure assets.
- To enable the student to apply mechanistic design methods for overlays to existing pavement.

Content
This unit provides an introduction to road pavement materials and the design of pavement structures. It has been developed to give someone who does not have a practical or academic background in pavements an appreciation of key issues and an understanding of the "state of the art". However, the unit does aim to impart some basic design skills and skills in the selection of appropriate materials for road pavements.

Textbooks

References

HCE602 Pavement Construction
12.5 Credit Points • 1 Semester or equivalent short course mode • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Examinations.
A subject in the Graduate Certificate of Engineering in Pavement Technology, Graduate Diploma of Engineering in Pavement Technology and Master of Engineering in Pavement Technology.
Aims & Objectives
- To enable the student to plan and supervise the implementation of earthworks operations associated with road pavement construction.
- To enable the student to supervise the performance of and interpret data from laboratory and field tests carried out during the construction of a road pavement.
- To enable the student to participate in the selection of appropriate materials, plant and equipment for road construction and to assist in managing these and other resources to help minimise the cost of construction.
- To enable the student to apply the principles of quality assurance to the planning, design and implementation of road construction projects.
- To enable the student to make more effective decisions on road construction projects, based on an in depth knowledge of pavement construction techniques.

Content
This unit presents the construction of road pavements from drainage requirements to surface preparation, with pavement material options, surface applications and work acceptance. Earthworks and formation preparation includes special treatments for soft area excavation and construction testing. A topic on selection and application of granular materials is followed by details of surface preparation prior to wearing surface application. The unit also includes asphalt production and laying as well as spray seal treatments. Specifications for materials and workmanship are covered for all areas of pavement construction. The unit contains typical examples taken from construction practice to give an appreciation of the range of activities associated with road construction.

Textbooks

References

HCE603 Pavement Wearing Surfaces
12.5 Credit Points • 1 Semester or equivalent short course mode • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Examinations.
A subject in the Graduate Certificate of Engineering in Pavement Technology, Graduate Diploma of Engineering in Pavement Technology and Master of Engineering in Pavement Technology.
Aims & Objectives
- To enable the student to specify the materials and workmanship required for an effective pavement wearing surface.
- To enable the student to select the most appropriate wearing surface for a variety of different conditions.
- To enable the student to apply basic design principles used by the industry for pavement wearing surfaces.
- To enable the student to apply the principles of performance assessment of surfaces with regard to user comfort, safety and cost.
- To enable the student to make more effective decisions based on an in-depth knowledge of pavement surfacing materials and techniques.

Content
This unit presents information on pavement wearing surfaces currently in use within Australia and New Zealand. The five topics in the unit cover the characteristics required of a surfacing, the types of wearing surface and their construction, the materials used including the preparation of specifications, the philosophy behind the selection of surfacings and selection criteria and finally the design of surfacing treatments. A large number of publications by state road authorities, local government and industry are referred to in this unit which presents current best practice in pavement surfacing. New and innovative products and processes are also covered and reference is made to local and overseas research programmes associated with wearing surfaces.

References

HCE604 Asphalt Mix Design
12.5 Credit Points • 1 Semester or equivalent short course mode • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Examinations
A subject in the Graduate Certificate of Engineering in Pavement Technology, Graduate Diploma of Engineering in Pavement Technology and Master of Engineering in Pavement Technology.

Aims & Objectives
- To enable the student to specify the material properties required for different asphalt mixes.
- To enable the student to apply the traditional and the ‘new’ Austroads mix design procedures.
- To enable the student to interpret the link between asphalt mix volumetrics and mix performance.
- To enable the student to use data from performance-related testing to derive engineering properties such as stiffness and fatigue resistance.
- To enable the student to make a more effective choice when selecting an asphalt mix for specific environmental conditions.

Content
This unit presents the theory behind designing a mix to meet performance criteria and the theory of the testing of mixes to match client requirements. Weight-volume relationships and their importance in mix design are supported by details of various mix design methods including the Austroads procedure. The unit also describes the most common types of asphalt mixes including dense graded asphalt, stone mastic asphalt, and fine gap graded asphalt. A topic on testing discusses the measurement of density, moisture sensitivity, modulus, creep and fatigue. The principles of asphalt mix recycling are also outlined in this unit.

Textbooks

References

HCE605 Pavement Maintenance, Rehabilitation
12.5 Credit Points • 1 Semester or equivalent short course mode • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Examinations
A subject in the Graduate Certificate of Engineering in Pavement Technology, Graduate Diploma of Engineering in Pavement Technology and Master of Engineering in Pavement Technology.

Aims & Objectives
- To enable the student to apply pavement maintenance principles in minimising the cost of operating road infrastructure.
- To enable the student to recognise the mechanisms of pavement distress.
- To enable the student to implement pavement evaluation procedures.
- To enable the student to select suitable materials and procedures for pavement restoration.
- To enable the student to make more effective decisions with regard to the recycling of pavement materials.

Content
This unit examines the different ways a pavement shows distress both structural and non-structural. Modes of distress including disintegration, distortion, cracking and fracture are described together with problems relating to safety and damage caused by external factors. Evaluation techniques are presented which can be used to assess the condition of a pavement with respect to serviceability, structural capacity and safety. The unit considers restoration using granular materials, full depth asphalt and concrete. Structural overlays are described along with details of stress absorbing layers. Corrective maintenance treatments are discussed at length and the unit concludes with the economic evaluation of alternative maintenance strategies.

References

HCE606 Industrial & Heavy Duty Pavements
12.5 Credit Points • 1 Semester or equivalent short course mode • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Examinations
A subject in the Graduate Diploma of Engineering in Pavement Technology and Master of Engineering in Pavement Technology.

Aims & Objectives
- To enable the student to apply pavement maintenance principles in minimising the cost of operating the road infrastructure.
- To enable the student to recognise the mechanisms of pavement distress.
- To enable the student to implement pavement evaluation procedures.
- To enable the student to select suitable materials and procedures for pavement restoration.
- To enable the student to make more effective decisions with regard to the recycling of pavement materials.

Content
This unit deals with the design and construction of heavy duty industrial pavements including pavements for ports, container facilities, bulk cargo areas, factory and warehouse floors, hardstands and mine haul roads. Pavement types include flexible, rigid and segmental construction.

Specific issues addressed in the unit comprise subsurface investigation, consolidation and control of settlement in port and industrial areas, dynamic consolidation, subgrade improvement, testing and characterisation for design, loads from heavy vehicles, vehicle movement patterns, pavement analysis and design, specifications for flexible, rigid and segmental pavements and maintenance and rehabilitation using overlays.

References

HCE607 Pavement Management Systems

12.5 Credit Points • 1 Semester or equivalent short course mode • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Examinations.

A subject in the Graduate Diploma of Engineering in Pavement Technology and Master of Engineering in Pavement Technology.

Aims & Objectives

- To enable the student to contribute to the collection, storage and retrieval of road pavement condition data.
- To enable the student to assist with the prediction of the future performance of a road pavement.
- To enable the student to assess the cost of maintaining a pavement over its life.
- To enable the student to operate a formal management system for a network of road pavements.

Content

An outline of the requirements and application of a formalised system for the total management of a road network, from the current situation through to defining the actions required to most effectively manage the network, based on the available financial resources. The unit gives a detailed description of a road network database with present condition, construction and maintenance history and traffic loading. It also contains coverage of topics such as future use prediction, future maintenance requirements, predicted treatment costs, formal management systems and asset management fundamentals.

References


HCE670 Construction Technology

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Oral Presentation.

A subject in the Graduate Diploma of Construction Management, Master of Construction Management and Master of Business Administration.

Aims & Objectives

- To develop a knowledge of the technological resources available for the execution of a construction project.

Content

- Planning of construction programs.
- Resource allocation.
- Plant and equipment.
- Soil investigation and data interpretation.
- Construction materials.
- Construction on soft soils.
- Road construction.
- Geosynthetics.
- Cranage.
- Bridge erection.
- Steel fabrication.
- Tunneling.
- Construction planning.
- Construction in SE Asia.

Textbooks


References


HCE677 Quantity Surveying A

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil

A subject in the Graduate Diploma and Master of Construction Management.

Aims & Objectives

- To enable the student to prepare bills of quantities, to appreciate the various types of bills, to appreciate feasibility studies and costs, to measure Civil Engineering, Engineering and Building, and to use the appropriate electronic hardware and software for support.

Content

- Standard Method of Measurement.
- Measuring and billing of quantities.
- Trade oriented bill of quantities including elemental specified and operational.
- Principles of elemental cost analysis.
- Reliability of data.
- Measurement of Civil and Building quantities.
- Computer assisted bills of quantities.

HCE690 Civil Engineering Project Control

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Tutorials, Discussions • Assessment: Assignments.

A subject in the Graduate Certificate of Engineering in Pavement Technology, Graduate Diploma of Engineering in Pavement Technology, and Master of Engineering in Pavement Technology.

Aims & Objectives

- To introduce the techniques for establishing and maintaining control of a project.

Content

- General conditions of contract.
- Forms of contract.
- Drawings, specifications and quantities.
- Estimating.
- Scheduling and programming.
- Quality control.
- Risk analysis documentation of work progress and costs.
- Progress payment procedures.
- Industrial safety.

References


HCE691  Civil Engineering Management

12.5 Credit Points  •  1 Semester  •  4 Hours per Week  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: Lectures, Tutorials, Discussions  •  Assessment: Assignments, Oral Presentation.

A subject in the Graduate Certificate of Engineering in Pavement Technology, Graduate Diploma of Engineering in Pavement Technology and Master of Engineering in Pavement Technology.

Aims & Objectives
To develop an awareness of efficient site management techniques.

Content
• Responsibilities of a project manager.
• Responsibility of site engineer.
• Construction site organisation.
• Site office procedures.
• Contractor/principal relations.
• Industrial arbitration.
• Company structures.
• Personnel management.
• Negotiations.
• Arbitration and conciliation.
• Formulation of goals and objectives.
• Business strategies.
• Technological strategies.
• Operational planning.
• Short range objectives.
• Realising objectives.
• Strategies and plans.
• Planning construction programs.
• Market niche.
• Organisational structure and design.
• Organisational life cycle.
• Coordinating design and site functions.
• Organising capital inputs, work methods.
• Leaders working with people.
• Leadership traits and behaviour.
• Determinants of leadership effectiveness.
• Difference between leading and managing.
• The effect of innovative leadership.
• Entrepreneurial traits.
• Entrepreneurs in construction.
• Decision making.

Textbooks

References
Carneegie, R., Butlin, M., Managing the Innovative Enterprise.
Friedman, W., Construction marketing and Strategic Planning.
Hashimoto, Y., Improving Productivity in Construction.

HCE692  Communications

12.5 Credit Points  •  1 Semester  •  4 Hours per Week  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: Lectures, Tutorials, Discussions  •  Assessment: Oral Presentation, Participation, Report.

A subject in the Graduate Certificate of Engineering in Pavement Technology, Graduate Diploma of Engineering in Pavement Technology and Master of Engineering in Pavement Technology.

Aims & Objectives
To develop the students understanding and practice of communication, both written and verbal.

Content
The theory and practice of communications. Students take part in a program designed to increase their personal capacities to understand and communicate well at different levels of oral and written communication, particularly as project managers in the construction industry. To this end various techniques are used and evaluated by the group. The course also includes a brief study of the historical role of the engineer in the development of human communications, placing the profession in its social context. The purpose of the course is to enable the engineer to evaluate professional problems more competently and to communicate ideas more effectively.

References
Robinson, D.M., Writing Reports for Management Decisions, CE Merrill, Columbus, Ohio, 1969.

HCE693  Introduction to Contract Law

7.5 Credit Points  •  1 Semester  •  2 Hours per Week  •  Hawthorn  •  Prerequisite: Nil  •  Assessment: Assignments.

A subject in the Master of Engineering (Construction Management).

Aims & Objectives
This subject is intended to enable students to gain an understanding of the relevant law applicable to the building and construction process and to provide the students with the necessary skills to administer a building project.

Content
• Contract types, contract documents, conditions of contract, choice of contract type relating to risk and financial considerations, site documentation, computer applications for site administration of contracts.
• Legal system in Australia, sources of law, court structures, system of judicial precedence, types of law criminal, civil, consumer, worker protection, law of partnership, law of bankruptcy.

References

HCE697  Infrastructure Systems

12.5 Credit Points  •  1 Semester  •  4 Hours per Week  •  Hawthorn  •  Prerequisite: Nil  •  A subject in the Master of Engineering (Construction Management).

Aims & Objectives
To develop an understanding of the hardware of the systems which support a high standard of civilisation and the operation of that hardware for the benefit of mankind.

Content
The support systems in modern urban areas, the history of the construction, water supply systems, sewage systems, road networks, rail networks, organisations to plan, construct, manage and maintain the systems, system control, system deterioration and rehabilitation, investment in systems, future costs of such systems, alternative means of providing the service, extending the life of the systems, planning for system replacement.

HCE770  Construction Engineering

12.5 Credit Points  •  1 Year  •  4 Hours per Week  •  Hawthorn  •  Prerequisite: Nil  •  A subject in the Graduate Diploma of Engineering (Construction Management).

Content
• Construction techniques for highways, bridges, railways, airports, tunnels, pipelines, foundations, buildings, dams, water supply structures, sewerage.

Swinburne University of Technology | Higher Education Handbook 2002


• Logistics for major construction operations.
• Major offshore projects.
• Supply problems offshore.
• Technology access in South-East Asian countries and China.

**HCE771 Construction Project Control**

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil.
A subject in the Graduate Diploma of Engineering (Construction Management).

**Aims & Objectives**
To develop research and self educative skills.

**Content**
• Formation of hypothesis and setting of objectives.
• Establishing reference sources and literature review.
• Layout of thesis, including chapter and sub chapter headings.
• Experimental Design.
• Data gathering.
• Poster papers and preparation of reports.

Students work individually on a project dealing with an aspect of construction management or technology preferably related to their employment or to a data base in a construction firm. A literature survey is required. A state of the art report is prepared.

**References**

**HCE772 Construction Technology**

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Tests.
A subject in the Graduate Diploma of Engineering (Construction Management), Master of Engineering (Construction Management) and Master of Business Administration.

**Aims & Objectives**
To develop an understanding of Construction Building Systems and their most efficient use.

**Content**
• Construction and building systems.
• Prediction of performance.
• Cost of production.
• System optimisation.
• Computer based system modelling.
• Maintenance and safety.

**References**

**HCE773 Research Project**

50 Credit Points • 1 Year • 16 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Practical work and data gathering requiring regular meetings with supervisor, class presentations and seminars • Assessment: Continuous, Oral Presentation, Project Report, Thesis.
A subject in the Master of Engineering in Pavement Technology.

**Aims & Objectives**
To develop students’ knowledge, initiative and self-education skills through work on a research project in an area relevant to the course.

**Content**
This subject gives students the opportunity to apply subject matter studied in earlier subjects to construction and building related problems. Students will work individually or in small groups on selected projects which, where possible, will be industry based and sponsored and have direct relevance to the students area of employment. Interaction between professional engineers in industry, supervising staff at Swinburne and students will help develop the students’ competence. External supervisors may be appointed in addition to staff supervisors.

Projects will usually require a literature survey and a theoretical and/or experimental investigation. Results and conclusions will be presented in oral and written report form.

**HCE777 Quantity Surveying B**

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil.
A subject in the Graduate Diploma in Engineering (Construction Management) and Master of Engineering (Construction Management).

**Aims & Objectives**
To enable the student to prepare estimates at various stages of a project. These estimates will be at different levels of accuracy, incorporating overheads and variations, and the use of computer programs.

**Content**
• Estimate preparation at the pre-design.
• Design and tender stages.
• Establishing the accuracy of estimating methods and the associated risks.
• Assessment of overheads and margins and the incorporation into estimates.
• Evaluate the implications of rise and fall clauses.
• Evaluate sub-contract quotations and the implications of appended conditions.
• Estimates of Civil Engineering works.
• Coordination of the preparation of a major tender.
• Statistical estimating methods.
• Use of standard computer packages.

**HCE790 Financial Project Control**

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Tutorials, Discussions • Assessment: Oral Presentation, Participation, Report.
A subject in the Graduate Certificate of Engineering in Pavement Technology, Graduate Diploma of Engineering in Pavement Technology and Master of Engineering in Pavement Technology.

**Content**
This subject introduces financial concepts that are important in evaluating projects, in financing projects, in financial control and in determining the profitability of projects.

**HCE791 Human Resource Management**

5 Credit Points • 1 Semester • 2 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Seminar.
A subject in the Master of Engineering (Construction Management).

**Aims & Objectives**
To make the student aware of the technique of human resource management.

**Content**
Client contractor, sub-contractor relations, safety, personnel administration, individual and group psychology, industrial psychology, structure and role of trade unions, human resource management. This subject includes practical work and a visit to the arbitration court.

**References**
Aims & Objectives
To further develop aspects of professional design practice.
To contribute to the student’s development of sound idea general methodologies.
To further develop skills in pertinent software applications.
To encourage creative and expressive development in design for the world wide web.
To develop knowledge and experience in design for this medium.

Content
• To develop knowledge and experience in design for this medium.
• To encourage creative and expressive development in design for the world wide web.
• To further develop skills in pertinent software applications.
• To contribute to the student's development of sound idea general methodologies.
• To further develop aspects of professional design practice.
• To develop skills in conceptual, critical and technical problem solving in this medium.
HDBA800 Organisation: Managing in HDBA800B complexity, uncertainty and change
2 Half Years  • 42 Class Hours  • Hawthorn  • Prerequisite: MBA or equivalent  • Teaching methods: Seminars, Discussion  • Assessment: A major and minor essay for each subject
Part A and B coursework seminars in the Professional Doctorate of Business Administration (DBA).
Aims & Objectives
The outcomes of the Organisation unit are primarily to develop an advanced understanding of the literature and the current practices related to initiating and managing change within organisations. Other important outcomes are to:
- Develop a complex understanding of the interrelation of the organisation culture, leadership, conflict and change. The unit will be valuable to all participants but will be particularly suited to those who practice as professional change agents, either as consultants or internal change agents.
- Understand organisations as complex processes, the nature of adaptation, organisational interventions, and reflection on action in action.
- To develop a critical appreciation of how organisation theory and the practice of change in highly successful companies integrates entrepreneurship and strategic management, providing a powerful energising force for the organisation. Analysis of participants’ own organisation is required.

Content
These two organisation subjects have been developed to assist postgraduate students in the DBA program to enhance their conceptual knowledge and critical appreciation of major theories underpinning the interrelated aspects of culture, leadership, conflict and change in highly successful companies. Attention will be given to comparisons between mechanistic systems and stable equilibrium as dominant paradigms which are challenged by radical discontinuity and non-linear predictability. Focus will be maintained on making effective organisational interventions and building a climate of organisational enquiry, including action research.
Seminars will be structured to encourage a learning environment within which participants accept responsibility for rigorous thinking and critical evaluation as they engage with seminar topics. Open and informal discussion, shared experience and collaborative exchange between participants will underpin the structure of each seminar session.

References

HDBA801 Entrepreneurship: Opportunity
HDBA801B Based Management.
2 Half Years  • 42 Class Hours  • Hawthorn  • Prerequisite: MBA or equivalent  • Teaching methods: Seminars, Discussion  • Assessment: Essays, assignments.
Part A and B coursework seminars in the Professional Doctorate of Business Administration (DBA).
Aims & Objectives
In these subjects candidates are guided to:
- A critical appreciation of the general scope of refereed journal literature in the discipline of entrepreneurship.
- An evaluation of the practice of entrepreneurship within their own organisations.

Content
These two subjects on entrepreneurship highlight the understanding of entrepreneurship both from the point of view of leading edge literature and organisational practice. These subjects will have an applied orientation; bringing current literature to bear on what is studied in the workplace.

References

HDBA802 Strategy: Achieving Competitive
HDBA802B Advantage
2 half years  • 3 Hours per Week  • Hawthorn  • Prerequisite: MBA or equivalent  • Teaching methods: Seminars, Discussion  • Assessment: Essays, Assignments.
Part A and B coursework seminar subjects in the Professional Doctorate of Business Administration (DBA).
Aims & Objectives
These subjects aim to provide:
- An understanding that successful strategic management is a continuing process that goes well beyond the traditional event-driven strategic planning activity understood as Business Policy.
- A critical appreciation of how strategic management in highly successful companies integrates entrepreneurship and organisational behaviour with the strategic planning process and provides a powerful energising force for the organisation.
- A realisation that the success of strategic management depends as much on thorough and well-managed implementation of strategy as on the creative brilliance of the strategy formulation, and an understanding of how to achieve such implementation.
- Insights into how successful companies are ‘breaking the rules’ of traditional Business Policy to dramatically change the rules of competition in their industries to forge powerful new types of strategic advantage.
- An understanding as to how alternative strategic approaches that ‘break the rules’ of traditional Business Policy can dramatically change the competitive environment to the organisation’s advantage.

Content
Using the external and internal strategic analysis and planning model from Master level Business Policy as a starting point, this subject examines current literature and discusses specific examples of how companies combine strategic processes to build competitive advantage in existing industries and to create new industries.
Class discussion of the readings will focus on how the relevant strategic principles and lessons from the company examples could apply in their own organisations. A major portion of the learning from this subject will come from analysis, evaluation and application of the strategic processes within the students’ own organisations.

References

HDBA803 Practicum: methods and practice of research.
42 hours for the method component delivered in block mode over two weekends. Then group and individual supervision will be offered to complete the Practicum and thus assist each participant with their thesis. Hawthorn  • Prerequisite: Nil.
A coursework seminar in the Professional Doctorate of Business Administration (DBA).
Aims & Objectives
The Practicum is designed to ensure that participants establish the necessary knowledge and understandings to successfully carry out the demands of an independent research project. It involves a variety of forums in which close linkages are made between workplace issues and the development of a viable research project.
Outcomes: The ability to formulate research questions, select the appropriate methodology for the task, understand ethics in research, understand commonly used research tools, and the ability to prepare and present research findings in forms suitable for publication.

Content
This advanced seminar is offered as an intensive program in a block of three days (foundational issues relating to the processes research and choice of method) followed by a two day seminar (of research methods and intensive preparation on each participant’s thesis).
It is expected that this process will highlight the connections which the candidate is
and thesis examination.
search the candidate’s knowledge of each of the sections of the thesis in a spirit of
nominee.
thesis supervisor, a member from the area in which the candidate has undertaken the
composed of at least three members of Swinburne University staff comprising the
not the coordinating supervisor.
The primary task of supervision of a candidate’s thesis will be undertaken by staff from
clearly, argue cogently and communicate appropriately.
emphasise the concept of praxis, specifically, theory in
conceptual and methodological material offered in the Advanced Seminars and
The thesis will demonstrate that the candidate can appropriate and then apply the
including small business management and family businesses.
example there are emerging areas for research which offer exciting possibilities,
marketing, accounting, organisation behaviour but is not restricted to those areas. For
within any of the functional areas of an organisation, eg. information systems,
practitioner in the field in which the candidate’s thesis is set.
References
HDBA804A Thesis
HDBA804B
HDBA804C
Hawthorn • Prerequisite: Nil
A Coursework seminar in the Professional Doctorate of Business Administration
(DBA).
Content
The thesis of approximately 40,000 words is expected to represent a major
advancement in professional practice. A thesis may relate to any of the Advanced
Seminars or combination of Seminars. By negotiation, a thesis may be undertaken
within any of the functional areas of an organisation, eg. information systems,
marketing, accounting, organisation behaviour but is not restricted to those areas. For
example there are emerging areas for research which offer exciting possibilities,
including small business management and family businesses.
The thesis will demonstrate that the candidate can appropriate and then apply the
conceptual and methodological material offered in the Advanced Seminars and
Practicum of the DBA. This is to emphasise the concept of praxis, specifically, theory in
practice.
In particular it will demonstrate the candidate’s capacity to critically evaluate relevant
concepts and methods and demonstrate that the candidate has the capacity to describe
clearly, argue cogently and communicate appropriately.
The primary task of supervision of a candidate’s thesis will be undertaken by staff from
within Swinburne University of Technology. However, joint Swinburne/industry
supervision is expected within an environment where the industry supervisor is an
expert in the field. But, in all cases, the industry supervisor will be a second supervisor
not the coordinating supervisor.
An oral defence of the thesis undertaken by the candidate before a Thesis Defence Panel
composed of at least three members of Swinburne University staff comprising the
thesis supervisor, a member from the area in which the candidate has undertaken the
thesis (not the other thesis supervisor) and one from the SGSIM, the Director or their
nominee.
The purpose of the oral defence of the thesis is to ensure that teaching and research are
not seen as opposites. It is intended that the questions of the Thesis Defence Panel
will search the candidate’s knowledge of each of the sections of the thesis in a spirit of
helpful/supportive inquiry and also provide an avenue for informing teaching, research
and thesis examination.
It is expected that this process will highlight the connections which the candidate is
making between theory and practice. If the oral defence is unsatisfactory, the thesis
will not be sent for examination until a further oral defence provides satisfactory
outcomes.
External Examination
• Two examiners, where one is an Academic and the other is, preferably, from
industry, with expertise in the chosen field.
• External Examiners: The rules relating to the PhD apply, although one examiner
may be from industry as a recognised expert in the field.
HDCP101A Core Program A
25 Credit Points • 12 Weeks • 7 Hours per Week • Prahran • Prerequisite: Nil •
Teaching methods: Projects will be conducted within a studio/workshop environment.
Exhibitions/site visits may be required. • Assessment: Project
A subject in the Bachelor of Design.
Aims & Objectives
To introduce fundamental design elements, basic skills and methodologies appropriate to
all program areas within the National School of Design. To introduce students to a wide
range of staff and their areas of specialisation, creating pathways for continued support
in advanced levels of specific programs. To forge strong interdisciplinary links with all
cohorts of students.
Content
Projects will be conducted within a studio/workshop environment. Exhibitions/site
visits may be required. Students will be expected to continue with project work during
non contact weeks. Groups will be derived from a mixture of students from all
disciplines. Each project may include input from a number of lecturers. The subject
contains 4 areas of activity. Each activity contains 2 projects of equal duration. The
areas of activity are:
• Image Studio.
• Object Studio.
• Time and Sequence Studio.
• Space Studio.
Each studio provides for multiple outcomes in each of the project areas.
HDCP101B Core Program B
25 Credit Points • 12 Weeks • 7 Hours per Week • Prahran • Prerequisite: Nil •
Teaching methods: Projects will be conducted within a studio/workshop environment.
Exhibitions/site visits may be required. • Assessment: Project Progress
A subject in the Bachelor of Design.
Aims & Objectives
To continue the fundamental design elements, basic skills and methodologies
appropriate to all program areas within the National School of Design. To continue to
introduce students to a wide range of staff and their areas of specialisation, creating
pathways for continued support in advanced levels of specific programs and forging
strong interdisciplinary links with all cohorts of students.
Content
Projects will be conducted within a studio/workshop environment. Exhibitions/site
visits may be required. Students will be expected to continue with project work during
non contact weeks. Groups will be derived from a mixture of students from all
disciplines. Each project may include input from a number of lecturers. The subject
contains 4 areas of activity. Each activity contains 2 projects of equal duration. The
areas of activity are:
• Image Studio.
• Object Studio.
• Time and Sequence Studio.
• Space Studio.
Each studio provides for multiple outcomes in each of the project areas.
HDDC401 Studio
50 Credit Points • 24 Weeks • 18 Hours per Week • Prahran • Prerequisite: Nil •
Teaching methods: Students will be assigned to working groups for individual projects. •
Assessment: Continuous
A subject in the Bachelor of Design (Honours)/(Graphic Design).
Aims & Objectives
• To enhance and develop the quality of visual communication undertaken in the final
year of a bachelor of design program.
Subject Details

Applying knowledge and skills to the development of an appropriate educational project.

Content

Students will be assigned to working groups for individual projects. Each student will be required to take on the role of team leader for some projects and a team member for others. Team leaders will assume greater responsibility for project management and be the daily point of contact for the client. Students will be required to engage in all aspects of design management to guide individual projects through a process to a final point of delivery. Completion of a series of lectures, seminars or tutorials and a paper that demonstrates an understanding of design strategy with advanced principles and application of design management.

Students will be encouraged to take responsibility for the complete process of producing communication design through the printed medium. The following aspects will be:

- Client liaison.
- Taking a brief.
- Contact reporting.
- Supervision and co-ordination of suppliers.
- Preparation of written quotations and creative proposals.
- Project and production management.
- Group leadership.
- Concept presentation to clients.

HDDC402 Advanced Research Project

25 Credit Points • 24 Weeks • 2 Hours per Week • Prahran • Prerequisite: All Year 3 subjects • Teaching methods: Projects will be generally conducted within a professional studio environment. Projects will be introduced via an oral and/or visual presentation of relevant material. Group work, group discussion, evaluation, research, individual consultation, critique sessions and student presentations (internal and to clients) will be conducted where appropriate.

A project will be commenced at the start of the semester. The following are examples of types of projects that will be undertaken:

- Concept presentation to clients.
- Make a formal presentation of the applied visual conclusions.
- Write a brief informative report on the research topic.
- Develop an understanding of the practice of design in multimedia design methods and technology.
- To introduce the fundamental aspects of the content, function and context of visual communication.

Content

- Formulate and refine a sound design research proposal.
- Prepare data for analysis.
- Choose appropriate analysis to perform on these data.
- Write a brief informative report on the research topic.
- Make a formal presentation of the applied visual conclusions.

HDDP501 Design Practice - Digital (Graphic Design)

12.5 Credit Points • 1 Semester • Equivalent of 72 Hours (in appropriate teaching blocks) • Prahran • Prerequisite: Nil • Teaching methods: Workshop sessions will consist of some formal instruction and demonstration, followed by discussion regarding the information/concepts presented. Assessment: A folio submission containing exercises undertaken, collated notes and examples and self-directed project work.

A subject in the Bachelor of Design (Honours) (Graphic Design).

Aims & Objectives

To further develop the professional design management skills of the students to prepare them for industry practice.

- Determine and specify appropriate technology for their workplace requirements.
- Instruction relating to fundamental considerations such as the various colour models used throughout the design/production process.
- Management of projects and documents.
- Font usage and management.
- Image file formats for reproduction.
- Scanning and editing of images.
- File construction and presentation for reproduction.
- Use and function of digital output devices in creating presentation documents.
- Basic pre-press operations and considerations.
- Standard printing procedures, terminology and application.
- Introduction to the major software applications (Adobe Photoshop, Adobe Illustrator and Quark Xpress) utilised in the graphic arts industry, including the primary functions, appropriate use of tools and techniques within these applications relative to graphic reproduction.

References

A suggested reading/resource list will be made available upon commencement of the unit. Many 'computing' texts are application version specific. Students will be advised of the version used and options available at the time.

HDDP502 Design Practice - Digital (Multimedia Design)

12.5 Credit Points • 1 Semester • Equivalent of 72 Hours (in appropriate teaching blocks) • Prahran • Prerequisite: Nil • Teaching methods: Tutorials and exercises allowing students to gain appropriate knowledge and grounding in the basic technology and processes of multimedia. Assessment: Progressive evaluation of work, with a folio of work of work presented as workbook/journal and digital files submitted at the end of the semester.

A subject in the Master of Design (Design Studies).

Aims & Objectives

- To develop an understanding of the practice of design in multimedia design methods and technology.
- To introduce the fundamental aspects of the content, function and context of visual communication.

Content

This subject has two study areas:

- Typography: Introduces the fundamental aspects of typographic theory. Letter form, structure, symbolic and communicative abilities as applied across and compared with print based and CRT based media. Introduces major typeface groups and their application to headline and text settings. Instruction on using drawing/layout and digital imaging software. Understanding the Macintosh operating system and the organisation and planning of digital data.
- Multimedia Scripting and Internet Communication: Introduces the World Wide Web and describes its operation as a communication medium. Introduces Web browsers, servers and the necessary technical considerations for effective delivery such as bandwidth issues and compromises, text and hypertext, image files (GIF and JPEG). Basic and intermediate HTML, frames and tables. ISP services and FTP file delivery.

References


HDDP503 Design Practice - Digital (Industrial Design)

12.5 Credit Points • 1 Semester • Equivalent of 72 Hours (in appropriate teaching blocks) • Prahran • Prerequisite: Nil • Teaching methods: A combination of tutorials and studio demonstration. Assessment: Progressive review of tutorial exercises and examination.

A subject in the Master of Design (Design Studies).

Aims & Objectives

- To develop an understanding of engineering drawing communication skills to Australian Standard AS1100.
• Introduce the fundamentals of Computer Aided Drafting and Computer Aided Design (CAD).
• To investigate the use of 3D Computer Aided Design as a product design tool.

Content
This subject consists of four study areas:
Engineering Drawing: 2D CAD Drawing
• Development of the skills of orthogonal, 3rd angle projections and assembly drawings.
• Explore Engineering drawing specifications of sections, dimensions, tolerancing surface finishing and welding symbols.
• Construction of intersecting surfaces and development of surfaces.
2D CAD Drawing
• Application of Computer Aided Drafting techniques.
• Understanding of basic commands including the use of layers, data storage and retrieval dimensioning.
3D CAD
• Introduction to 3D modelling and wireframe modelling.
• Parametric design in 3D.
• Application of 3D modelling in prototyping and machining.
3D Studio Software
• Investigation of 3D illustration software as applicable to designers.

References
Engineering drawing handbook i.e. Aust standards 1993.

HDDS504 Design Practice - Digital (Interior/Exhibition Design)
12.5 Credit Points • 1 Semester • Equivalent to 72 Hours (in appropriate teaching blocks). • Prahran • Prerequisite: Nil • Teaching methods: Tutorials and exercises. • Assessment: Students will be required to gain an overall pass grade, which will be assessed against specific performance indicators and criteria.

A subject in the Master of Design (Design Studies)

Aims & Objectives
To provide students with the knowledge and skills to use CAD for the Production of 2D and 3D drawings to a satisfactory level.

Content
This unit will give students the theoretical and practical skills required to provide 2D and 3D working drawings and an understanding of CAD drafting management. Topics will include:
• Library creation and data importation.
• Systems variables and configuration; production of 2D CAD drawings.
• Set up a 3D environment to allow multiview of 3D models.
• Create a variety of internal and external views.
• Save selected views and drawings on file for plotting and printing.

References
Students will be expected to purchase relevant manuals of the latest software - e.g. Inside AutoCAD R13.

HDDS501 Design Studio 1 (Graphic Design)
12.5 Credit Points • 1 Semester • Equivalent of 72 Hours (in appropriate teaching blocks). • Prahran • Prerequisite: Nil • Teaching methods: Projects will be conducted in a studio environment, encompassing individual practice, team practice, group discussion, and group critiques of work in progress. Independent research will be encouraged and evidence presented in the project outcome. • Assessment: Assessment will consist of both a folio submission containing exercises undertaken and finished project work, and a journal/workbook showing research and methodologies.

A subject in the Master of Design (Design Studies)

Aims & Objectives
• To enhance and develop knowledge and experience of visual communication through an understanding of visual language.
• To establish and explore specific design projects using text and images that result in imaginative and compelling ideas developed for a particular audience.
• To develop and extend aspects of professional design practice.

Content
Innovative and creative design responses to a variety of design projects, both 2D and 3D, will be encouraged. Issues of content, context and meaning will be addressed in all projects while contemporary design practice and production outcomes will underpin all project work.

HDDS502 Design Studio 1 (Multimedia Design)
12.5 Credit Points • 1 Semester • Equivalent of 72 Hours (in appropriate teaching blocks). • Prahran • Prerequisite: Nil • Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques. • Assessment: Progressive evaluation with a folio submitted at the end of the semester.

A subject in the Master of Design (Design Studies)

Aims & Objectives
• To enhance and develop knowledge and experience of visual communication through an understanding of a visual language.
• To establish and explore specific design projects in words, pictures, and when appropriate or possible, sound and motion to convey imaginative and compelling ideas to a particular audience.
• To further develop aspects of design strategy in graphic design and communication design.
• To produce a body of visual communication in the form of a cohesive document that demonstrates a student’s understanding of the process and production of graphic design.

Content
Image generation, research, design methodologies and synthesis will be included in applied project work. Methods and the practice of idea generation will be explored. Information and communication design will be explored within structured aspects of production and professional practice. Students will also explore various aspects of three-dimensional design. Issues of content, context and meaning will be addressed in most projects. Project outcomes may be further developed in Computer Based Design.

References

HDDS503 Design Studio 1 (Industrial Design)
12.5 Credit Points • 1 Semester • Equivalent of 72 Hours (in appropriate teaching blocks). • Prahran • Prerequisite: Nil • Teaching methods: Studio tutorials and discussion sessions, Class exercises and presentations, Set projects allowing students to research and apply new knowledge. • Assessment: Completion of set assignments, Review of student’s body of work.

A subject in the Master of Design (Design Studies)

Aims & Objectives
To develop and explore the principles of design and design methodology as they apply to the field of industrial design. Students will develop their abilities to identify the key points in a design brief and to research and explore imaginative concepts, which culminate in a comprehensive design proposal.

Content
In all activities emphasis will be placed on understanding the Design Process. Creative problem solving and utilising knowledge gained in all study areas will be expected. Appreciation of three dimensional form and aesthetics will be developed, as well as identification of issues involved in a design brief. Communication of ideas by two and three-dimensional means, understanding of the task and comprehension of appropriate technological requirements are expected. The studio will be project based.

HDDS504 Design Studio 1 (Interior/Exhibition Design)
12.5 Credit Points • 1 Semester • Equivalent of 72 Hours (in appropriate teaching blocks). • Prahran • Prerequisite: Nil • Teaching methods: Exercises and assigned project work will be undertaken in the studio environment. These activities will be supported by lectures, practical demonstrations, tutorials and seminars, group sessions and critiques. • Assessment: Progressive assessment and folio review.

A subject in the Master of Design (Design Studies)
Aims & Objectives
The subject seeks to consolidate and enhance the experiences and understanding of graduate students in the field of interior/exhibition design. Activities within this study area will provide a challenging range of sequential and cumulative learning experiences within the broad context of interior/exhibition design. In particular, it seeks to extend student’s theoretical and creative engagement with this field of design.

Content
The program of study will include a wide variety of contextually oriented project based activities. Assigned projects will require students to continually investigate various aspects of the system of relationships that exist between the three organising concepts: Body, Object, and Environment. Project based work will provide opportunities to achieve innovation through experimentation, consideration of theoretical studies in design and related activities, and other key developmental concepts.

References

A subject in the Master of Design (Design Studies)

HDDS601 Design Studio 2 (Graphic Design)
12.5 Credit Points • 1 Semester • Equivalent to 72 Hours (in appropriate teaching blocks). • Prahran • Prerequisite: HDDS501 • Teaching methods: Projects will be conducted in a studio environment, encompassing individual practice, team practice, group discussion, and group critique of work in progress. Independent research will be encouraged and evidence presented in the project outcome. • Assessment: Assessment will consist of both a folio submission containing exercises undertaken and finished project work, and a journal/workbook showing research and methodologies. A subject in the Master of Design (Design Studies)

Aims & Objectives
• To provide evidence of developed ideas, design strategies and communication skills, demonstrating a theoretical and practical understanding of visual communication through project work.
• To contribute to the students’ development of sound idea generation methodologies.
• To establish and demonstrate strong and comprehensive design work.

Content
Issues of content, context and meaning will be addressed in more comprehensive projects. Key aspects of contemporary design practice and production outcomes will underpin all project work.

HDDS602 Design Studio 2 (Multimedia Design)
12.5 Credit Points • 1 Semester • Equivalent to 72 Hours (in appropriate teaching blocks). • Prahran • Prerequisite: HDDS502 • Teaching methods: Projects will be conducted in a studio environment, in location through lectures, student consultation/discussion, demonstrations and critiques. • Assessment: Progressive evaluation with a folio submitted at the end of the semester. A subject in the Master of Design (Design Studies)

Aims & Objectives
• To enhance and develop knowledge and experience of design for multimedia through an understanding of visual language and narrative form as applied over time.
• To apply specific design systems in conceptual and critical problem solving in multimedia design and visual communication.

Content
This subject has two study areas:

Script Writing and Animation: Students will be required to investigate the narrative form and develop concepts into visual outcomes through format and spatial organisation, scale, structure, texture, pattern, movement, colour in a variety of 2 and 3 dimensional media. Concepts of pictorial arrangement in storyboard, movement, spatial relationships, image composition, selection and editing will be explored in projects.

Multimedia Design Research Project: Students prepare a comprehensive document which explains their research method, interest, special skills and abilities, understanding of language and imaging by synthesising multimedia design into a visual communication project. Narrative structure, storyboard, animation, 3D modelling, audio and video, construction and materials may be explored.

References

HDDS603 Design Studio 2 (Industrial Design)
12.5 Credit Points • 1 Semester • Equivalent to 72 Hours (in appropriate teaching blocks). • Prahran • Prerequisite: HDDS503 • Teaching methods: Studio tutorials; Assigned project work; Class exercises. • Assessment: Progressive project assessment in which understanding or relevant design issues, design originality and quality of submission will be considered. A subject in the Master of Design (Design Studies)

Aims & Objectives
To build upon issues encountered in Design Studio 1 with the emphasis on professional detailing, research presentations and further design development. Emphasis is placed on understanding technological requirements and creative development.

Content
An extension of projects developed in Design Studio 1 with complementary exercises and research presentations.

HDDS604 Design Studio 2 (Interior/Exhibition Design)
12.5 Credit Points • 1 Semester • Equivalent to 72 Hours (in appropriate teaching blocks). • Prahran • Prerequisite: HDDS504 • Teaching methods: Studio activities and projects will emphasise creativity and experimentation in the context of realisable design projects. Tutorials, audiovisual presentations, and exposure to a range of theoretical material will support these projects. • Assessment: Progressive assessment and folio review. A subject in the Master of Design (Design Studies)

Aims & Objectives
To build on and enhance the skills, understanding and knowledge developed in the previous unit, particularly in the sense of the theoretical, experimental and critical investigation of interior/exhibition design.

Content
Projects will be designed to introduce complex issues that will challenge students to investigate design propositions in a lateral and innovative manner, aware of the various social and cultural implications of their approach. Students will be encouraged to expand their awareness of the development of ideas and aesthetics through applying their skills and understanding to assigned projects. Relevant research and course documents will support projects.

References
Students will be referred to project-specific references and supplied with class notes as applicable.

HDGD102A Design Practice 1A
12.5 Credit Points • 12 Weeks • 6 Hours per Week • Prahran • Prerequisite: Nil • Teaching methods: Assignments, Lectures, Practical Demonstrations. • Assessment: Continuous A subject in the Bachelor of Design (Graphic Design).

Aims & Objectives
• To introduce an understanding of the practice of design in graphic design methods and technology.
• To introduce the fundamental aspects of the content, function and context of visual communication.

Content
This subject has three study areas:

Visual Communication: introduces the fundamental aspects of design and key aspects of communication through various projects. Projects introduce students to the application of the principles of design that help define the design process. Projects and workbooks will describe the design strategies that inform the practice of graphic design. Presentations will provide an understanding of the structural and spatial organisation that describes aspects of the language of visual communication.

Typography Design: introduces the fundamentals of typographic understanding through a formal introduction to typography to define its symbolic and communicative aspects. Introduces a historical overview, terminology, type classifications/identification of typography. Includes: the mechanism of type and printing, measuring type, letterform.
and alphabet development, fonts – traditional definitions and forms. Organising, handling, referencing and accessing fonts. Working with headlines, text and body copy. Typographic principles are introduced through a series of exercises and projects.

Computer Based Design: involves defining and applying computer conventions, concepts and terminology. Understanding the interface of the Macintosh Operating System. Organising, handling, referencing and accessing fonts. Working with digital data, storage and back-up standards. Instruction on using drawing/layout, digital imaging and desktop publishing programs to be used to a minimum specified standard.

References
Visual QuickStart Guide, California, Quark Xpress 4 for Macintosh -Peachpit Press.

HDGD102B  Design Practice 1B
12.5 Credit Points • 12 Weeks • 6 Hours per Week • Prerequisite: Nil • Teaching methods: Assignments, Lectures, Practical Demonstrations
A subject in the Bachelor of Design (Graphic Design).

Aims & Objectives
• To develop an understanding of the practice of design in graphic design methods and technology.
• To develop the fundamental aspects of the content, function and context of visual communication.

Content
This subject has three study areas:
Visual Communication: develops the investigation of fundamental aspects of design and key aspects of communication through various projects. Projects will further develop the application of the principles of design that help define the design process. Projects and workbooks will describe the design strategies that inform the practice of graphic design. Presentations will provide an understanding of the structural and spatial organisation that describes aspects of the language of visual communication.

Typography Design: furthers typographic understanding through an investigation of typography and its symbolic and communicative aspects. Introduces a historical overview, terminology, type classifications/identification of typography. Includes: the mechanisation of type and printing, measuring type, letterform and alphabet development, fonts – traditional definitions and forms. Organising, handling, referencing and accessing fonts. Working with headlines, text and body copy. Typographic principles are developed through a series of exercises and projects.

Computer Based Design: develops and applies computing conventions, concepts and terminology. Further understanding of the interface of the Macintosh Operating System. The use of the computer (hardware and software) in design practice. Working with digital data, storage and back-up standards. Further instruction on using drawing/layout, digital imaging and desktop publishing programs. Technical and commercial reproduction considerations related to projects undertaken will also be addressed. A demonstration of competency in computer use and the basics of Adobe Illustrator, Adobe Photoshop and Quark Xpress are expected before beginning this subject.

HDGD201A  Communication 2A
12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prerequisite: Nil • Teaching methods: Projects conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques. • Assessment: Continuous
A subject in the Bachelor of Design (Graphic Design).

Aims & Objectives
To gain knowledge and experience of visual communication through an understanding of a visual language. To establish and explore specific design projects in words, pictures, and when appropriate or possible sound and motion, to convey imaginative and compelling ideas to a particular audience. To develop aspects of design strategy in graphic and communication design. To produce a body of visual communication in the form of a cohesive document that demonstrates a student’s understanding of the process and production of graphic design.

Content
Image generation, research, design methodologies and synthesis will be included in applied project work. Methods and the practice of idea generation will be explored. Information and communication design will be explored within structured aspects of production and professional practice. Students will also explore various aspects of three-dimensional design. Issues of content, context and meaning will be addressed in most projects. Project outcomes may be further developed in Computer Based Design, Design Practice 2B.

References

HDGD201B  Communication 2B
12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prerequisite: HDGD201A • Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques. A subject in the Bachelor of Design (Graphic Design).

Aims & Objectives
To enhance and develop knowledge and experience of visual communication through an understanding of a visual language. To establish and explore specific design projects in words, pictures, and when appropriate or possible sound and motion, to convey imaginative and compelling ideas to a particular audience. To further develop aspects of design strategy in graphic and communication design. To produce a body of visual communication in the form of a cohesive document that demonstrates a student’s understanding of the process and production of graphic design.

Content
Image generation, research, design methodologies and synthesis will be included in applied project work. The method and practice of idea generation will be explored. Information and communication design will be explored within structured aspects of production and professional practice. Students will also explore various aspects of three-dimensional design. Issues of content, context and meaning will be addressed in most projects. Project outcomes may be further developed in Computer Based Design, Design Practice 2B.

References

HDGD202A  Design Studio 2A
12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prerequisite: HDCP101B • Teaching methods: The subject is conducted in studio practice, lectures, tutorials, student consultation, demonstrations and critiques. Sessions may include presentations by students, tutors or mentors and visiting professional designers in the studio or in industry forums. • Assessment: Continuous
A subject in the Bachelor of Design (Graphic Design).

Aims & Objectives
To investigate the form and direction of visual communication through projects that explore the potential of creative and communicative visual production. To provide evidence of ideas, design strategy and communication skills, within an emerging theoretical and practical understanding of visual communication.

Content
Design Studio 2A consists of drawing related design and photographic related design, which develop ideas and skills in the principles, methods and technologies of design. All projects provide opportunities to investigate spatial organisation, pictorial representation and theories and methods of representation.

HDGD202B  Design Studio 2B
12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prerequisite: HDGP101B • Teaching methods: The subject is conducted in studio practice, lectures, tutorials, student consultation, demonstrations and critiques. Sessions may include presentations by students, tutors or mentors and visiting professional designers in the studio or in industry forums. • Assessment: Continuous
A subject in the Bachelor of Design (Graphic Design).

Aims & Objectives
To further investigate the form and direction of visual communication through projects that explore the potential of creative and communicative visual production. To provide evidence of ideas, design strategy and communication skills, within an emerging theoretical and practical understanding of visual communication.
Content
Design Studio 2B consists of photographic related design and a design research project, which develops ideas and skills in the principles, methods and technologies of design. All projects provide opportunities to investigate spatial organisation, pictorial representation and theories and methods of representation. The research project will help reveal and substantiate a particular direction in visual communication.

HDGD203A Design Practice 2A
12.5 Credit Points • 12 Weeks • 6 Hours per Week • Prahran • Prerequisite: NHHGD102B • Teaching methods: Group discussion and evaluation, individual consultation and critique sessions will be provided. The assignments will be conducted in a studio environment supplemented by lectures, practical demonstrations and critical review of work in progress. Class exercises with project outcomes will occur regularly. Extensive independent research will be encouraged and evidence presented in the project outcome. • Assessment: Continuous, Project.
A subject in the Bachelor of Design (Graphic Design).

Aims & Objectives
- To further develop an understanding of the practice of design in graphic design methods and technology.
- To develop and refine the conceptual principles, systems and methodologies underlying the practice of graphic design.

Content
This subject has three study areas:
- Computer Based Design: tutorial exercises will lead to the completion of assignments some of which will involve print outcomes or the resolution of design projects in collaboration with other subjects.
- Visual Communication: students will continue to investigate key aspects of design and communicate through various projects. This subject also covers defining and applying typographic conventions.
- Typography Design: projects further explore and develop typography to define its symbolic and communicative aspects. Contextual understanding semiotic and critical theories are expanded in theory and practice, and digital imaging and desktop publishing programs are used to an intermediate standard. This subject also aims to apply specific design systems in conceptual and critical problem solving, and to encourage the understanding and application of semiotics.

Typography Design 2: projects further explore and develop typographic design to define its symbolic and communicative aspects. Students' understanding semiotic and critical theories are expanded in theory and practice. Organising, handling, referencing and accessing fonts is covered. Intermediate software use and application is applied to complex typographic documents, and digital imaging and desktop publishing programs are used to an intermediate standard. Technical and print considerations underpin projects. This subject also covers defining and applying typographic conventions. Observation and analytical exercises, describe how type talks, the emotional impact of, and our relationship to type is also addressed, and the use of the computer in contemporary design practice is demonstrated.

HDGD203B Design Practice 2B
12.5 Credit Points • 12 Weeks • 6 Hours per Week • Prahran • Prerequisite: HDGD102B • Teaching methods: Group discussion and evaluation, individual consultation and critique sessions will be provided. The assignments will be conducted in a studio environment supplemented by lectures, practical demonstrations and critical review of work in progress. Class exercises with project outcomes will occur regularly. Extensive independent research will be encouraged and evidence presented in the project outcome. • Assessment: Continuous, Project(s)
A subject in the Bachelor of Design (Graphic Design).

Aims & Objectives
- To further develop an understanding of the practice of design in graphic design methods and technology.
- To develop and refine the conceptual principles, systems and methodologies underlying the practice of graphic design.

Content
This subject has three study areas:
- Computer Based Design: tutorial exercises will lead to the completion of assignments some of which will involve print outcomes or the resolution of design projects in collaboration with other subjects.
- Visual Communication: study will continue to investigate key aspects of design and communicate through various projects. Projects will further develop students' applications of principles of design that help define and refine the design process. Projects and workbooks will describe the context, content and function of visual communication. Students will learn how to apply specific design systems in conceptual and critical problem solving. Visual Communication aims to encourage students to apply specific design systems in conceptual and critical problem solving and the understanding and application of semiotics.
- Typography Design: projects further explore and develop typography to define its symbolic and communicative aspects. Contextual understanding semiotic and critical theories are expanded in theory and practice, and digital imaging and desktop publishing programs are used to an intermediate standard. This subject further defines and applies typographic conventions.

HDGD301A Communication 3A
12.5 Credit Points • 12 Weeks • 6 Hours per Week • Prahran • Prerequisite: HDGD202B • Teaching methods: Project work will be undertaken in a studio context supplemented by work in tutorial groups, continuous critical review of work in progress, working in small teams and group discussion. • Assessment: Continuous
A subject in the Bachelor of Design (Graphic Design).

Aims & Objectives
- To provide the opportunity for a comprehensive investigation into the fundamentals of applied graphic design and visual communication through project work.
- To utilise imagery and words, and where possible, motion and sound, to convey imaginative and innovative ideas in various media.
- To develop skills in pertinent software applications.
- To contribute to the student's development of sound idea generation methodologies.
- To develop aspects of professional design practice.

Content
In Communication 3A students are involved in the study areas of Graphic Design, Multimedia Design and Communication Design. Students undertake projects spanning each of these component areas, providing an opportunity for the investigation of design principles, methodologies and technologies particular to these strands of the design industry. Projects are focussed toward equipping the student with an industry relevant folio at the completion of the degree.

HDGD301B Communication 3B
12.5 Credit Points • 12 Weeks • 6 Hours per Week • Prahran • Prerequisite: DGD301A
- Teaching methods: Project work will be undertaken in a studio context supplemented by work in tutorial groups, continuous critical review of work in progress, working in small teams and group discussion. The briefs will be supported by presentations of visual and background research in a group lecture situation by staff and/or students. • Assessment: Continuous
A subject in the Bachelor of Design (Graphic Design).

Aims & Objectives
- To further develop a comprehensive investigation into applied graphic design methods and visual communication through project work.
- To utilise imagery, words and, where possible motion and sound, to convey imaginative and innovative ideas in various media.
- To further develop skills in pertinent software applications.
- To contribute to the student's development of sound idea generation methodologies.
- To further develop aspects of professional design practice.

Content
In Communication 3B students are involved in the study areas of Graphic Design, Multimedia Design and Communication Design. Students undertake projects spanning each of these component areas, providing an opportunity for the investigation of design principles, methodologies and technologies particular to these strands of the design industry. Projects are focussed toward equipping the student with an industry relevant folio at the completion of the degree.
Aims & Objectives
- To provide the opportunity for the experience and understanding of the systems, methodologies and technologies relevant to contemporary design practice within local industry.
- To establish proficiencies in design project management skills and the understanding of business systems and production.

Content
Design Practice 3 consists of 3 study areas:
Software: Lectures in aspects of print based software and basic instruction of Multimedia. Design Studio 3 project-related component.
Production Technologies: Examination of various production methodologies. Case study presentation of industry-based design projects.
Design Management: Presentation of the principles and practices involved in being professionally engaged as a design practitioner.

HDGD302B Design Practice 3B
12.5 Credit Points • 12 Weeks • 6 Hours per Week • Prahran • Prerequisite: HDGD302A • Teaching methods: Software: Lectures in laboratory environment. Ongoing tutorials and critical reviews of Design Studio project work in progress in studio and laboratory environment. Production Technologies: Group lectures/presentations by staff and/or students, group discussions plus visiting speakers. Preparation of industry relevant, professionally focussed folio document. Design Management: Group lectures plus tutorials. Group lectures/presentations by staff and/or students, group discussions plus visiting speakers. • Assessment: Continuous
A subject in the Bachelor of Design (Graphic Design).

Aims & Objectives
- To provide the opportunity for the experience and understanding of the systems, methodologies and technologies relevant to contemporary design practice within local industry.
- To enhance proficiencies in design project management skills and the understanding of business systems and production.
- To prepare an individualised, professionally focussed folio document. This document will be integral to the graduate entering the professional environment or pursuing further study.

Content
Design Practice 3 consists of 3 study areas:
Software: Lectures in advanced aspects of print based software and instruction of Multimedia applications. Design Studio 3 project-related component. A demonstration of competency in particular computer applications is expected before commencing this subject.
Production Technologies: examination of various production methodologies. Case study presentation of industry-based design projects.
Design Management: presentation of the principles and practices involved in being professionally engaged as a design practitioner. Planning, development and design of individual, industrially focussed folio document.

HDGD401B Design Studio 4B
25 Credit Points • 12 Weeks • 12 Hours per Week • Prahran • Prerequisite: HDGD401A • Teaching methods: Projects will generally be conducted within the studio environment on a work in progress basis. Group discussion, site visits, research, consultation, evaluation, critique sessions and presentations will be conducted where appropriate. Students will integrate design and technology investigating the limits of digital media in traditional graphic design projects. • Assessment: Continuous
A subject in the Bachelor of Design (Honours)/Graphic Design.

Aims & Objectives
- To further enhance and develop the knowledge and professional experience gained during the previous year in industry or to enhance and develop the quality of visual communication undertaken in the final year of a bachelor of design program.
- To explore the relationship between education and practice through specific design projects in advanced areas of visual communication.
- To combine words, pictures, sound and motion to convey highly imaginative and compelling ideas to a particular audience.
- To further develop aspects of design leadership in design strategy and visual communication.

Content
Projects will generally be conducted within the studio environment on a work in progress basis. Group discussion, site visits, research, consultation, evaluation, critique sessions and presentations will be conducted where appropriate. Students will integrate design and technology investigating the limits of digital media in traditional graphic design projects. This subject is in three study areas:
Two Dimensional Studio: students undertake a variety of creative projects at an advanced level. Where appropriate professional client based projects may be undertaken. External projects and consultation may occur where appropriate. Students develop complete graphic design projects, from initial research and problem analysis through conceptual development and presentation of the final design outcome. Students will normally undertake a range of projects in the areas of visual communication, publication design, visual identity, advertising, communication design, digital design, and image making.
Three Dimensional Studio: students propose connections between two dimensional design and three dimensional design by writing or construction projects. The interface between the two dimensionalities will be developed in a series of experimental exercises. The studio will incorporate intensive investigation of the interface between section and detailed drawing. Students will articulate the theoretical and technical aspects of their particular projects to enrich their practice of design.

HDGD401A Design Studio 4A
25 Credit Points • 12 Weeks • 12 Hours per Week • Prahran • Prerequisite: HDGD401B • Teaching methods: Projects will generally be conducted within the studio environment on a work in progress basis. Group discussion, site visits, research, consultation, evaluation, critique sessions and presentations will be conducted where appropriate. Students will integrate design and technology investigating the limits of digital media in traditional graphic design projects. • Assessment: Continuous
A subject in the Bachelor of Design (Honours)/Graphic Design.

Aims & Objectives
- To further develop aspects of design leadership in design strategy and visual communication.
- To combine words, pictures, sound and motion to convey highly imaginative and compelling ideas to a particular audience.
- To further develop aspects of design leadership in design strategy and visual communication.

Content
This subject is in three study areas:
Two Dimensional Studio: students undertake a variety of creative projects at an advanced level. Where appropriate professional client based projects may be undertaken. External projects and external consultation may occur where appropriate. Students develop complete graphic design projects, from initial research and problem analysis through conceptual development and presentation of the final design outcome. Students will normally undertake a range of projects in the areas of visual communication, publication design, visual identity, advertising, communication design, digital design, and image making.
Three Dimensional Studio: students propose connections between two dimensional design and three dimensional design by writing or construction projects. The interface between the two dimensionalities will be developed in a series of experimental exercises. The studio will incorporate intensive investigation of the interface between section and detailed drawing. Students will articulate the theoretical and technical aspects of their particular projects to enrich their practice of design.

Multimedia Studio: students develop the skills to create prototypes for interactive multimedia projects by integrating text, images, video and sound in original productions. Communication and new media design is a research orientated interdisciplinary course of study that pushes the boundaries of graphic and communication design, especially as they relate to digital technologies. The program spans graphic design, visual communication, and computer-based media. Initial research can be done collaboratively, but separate individually distinctive outcomes are required.
communication, and computer-based media. Initial research can be done collaboratively but separate individually distinctive outcomes are required.

**HDGD402A Advanced Research Project 4A**

12.5 Credit Points • 12 Weeks • 2 Hours per Week • Prahran • Prerequisite: All Year 3 subjects • Teaching methods: Projects will generally be conducted within a professional studio environment. Projects will be introduced via an oral and/or visual presentation of relevant material. Group work, group discussion, evaluation, research, individual consultation, critique sessions and student presentations (internal and to clients) will be conducted where appropriate. • Assessment: Continuous

A subject in the Bachelor of Design (Honours) (Graphic Design).

**Aims & Objectives**

- To produce a body of graphic design work in the form of a cohesive document that demonstrates a student’s advanced understanding of the process and production of graphic design.
- Production of graphic design.
- Production of a specific visual design project that demonstrates a student’s advanced ability to practice visual communication.

**Content**

- Formulate and refine a sound design research proposal.
- Prepare data for analysis.
- Choose appropriate analysis to perform on these data.
- Write a brief informative report on the research topic.
- Make a formal presentation of the applied visual conclusions.

**HDGD402B Advanced Research Project 4A**

12.5 Credit Points • 12 Weeks • 2 Hours per Week • Prahran • Prerequisite: All Year 3 subjects • Teaching methods: Projects will generally be conducted within a professional studio environment. Projects will be introduced via an oral and/or visual presentation of relevant material. Group work, group discussion, evaluation, research, individual consultation, critique sessions and student presentations (internal and to clients) will be conducted where appropriate. • Assessment: Continuous

A subject in the Bachelor of Design (Honours) (Graphic Design).

**Aims & Objectives**

- To produce a body of graphic design work in the form of a cohesive document that demonstrates a student’s advanced understanding of the process and production of graphic design.
- Production of graphic design.
- Production of a specific visual design project that demonstrates a student’s advanced ability to practice visual communication.

**Content**

- Formulate and refine a sound design research proposal.
- Prepare data for analysis.
- Choose appropriate analysis to perform on these data.
- Write a brief informative report on the research topic.
- Make a formal presentation of the applied visual conclusions.

**HDHCT12A Design History and Critical Theory 1**

12.5 Credit Points • 12 Weeks • 3 Hours per Week • Prahran • Prerequisite: Nil • Teaching methods: Weekly lectures, screenings and tutorials. Two assignments designed to: Introduce ways of viewing, analysing and discussing images, objects and ideas; develop research skills and historical and critical awareness; develop written and oral language skills; stimulate debate, thought and experimentation.

A subject in the Bachelor of Design (Graphic Design), (Industrial Design), (Interior & Exhibition Design).

**Aims & Objectives**

To establish terms of reference by exploring developments in design and art within the context of changes in society and culture from the Industrial Revolution until World War II. The course is intended to promote an understanding of the role design and the media have played in Australian society, their relation to other cultural forms and their contribution to national identity.

**Content**

This course covers developments in design and art; it begins with the Industrial Revolution and Neo-Classicism in the late 18th Century and charts the development of modernism in design to Streamline and classicism in the 1920s and 1930s. In addition to considering major stylistic movements in design, cultural themes such as gender, class, imperialism and nationalism will be discussed. The course incorporates the analysis of the media with an emphasis on how ideas and values are encoded and disseminated, and how audiences might respond to them.

**References**


**HDHCT12B Design History and Critical Theory 2**

12.5 Credit Points • 12 Weeks • 3 Hours per Week • Prahran • Prerequisite: HDHCT12A • Teaching methods: Weekly lectures, screenings and tutorials. Two assignments designed to: Introduce ways of viewing, analysing and discussing images, objects and ideas; develop research skills and historical and critical awareness; develop written and oral language skills; stimulate debate, thought and experimentation.

A subject in the Bachelor of Design (Graphic Design), (Industrial Design) and (Interior & Exhibition Design).

**Aims & Objectives**

To establish terms of reference by exploring developments in design and art within the context of changes in society and culture from the Industrial Revolution until World War II. The course is intended to promote an understanding of the role design and the media have played in Australian society, their relation to other cultural forms and contribution to national identity.

**Content**

This course covers developments in design and art; it begins with the Industrial Revolution and Neo-Classicism in the late 18th Century and charts the development of modernism in design to Streamline and classicism in the 1920s and 1930s. In addition to considering major stylistic movements in design, cultural themes such as gender, class, imperialism and nationalism will be discussed. The course incorporates the analysis of the media with an emphasis on how ideas and values are encoded and disseminated, and how audiences might respond to them.

**HDHCT12C Ideas, Culture, and Communication 1**

12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prahran • Prerequisite: Nil • Teaching methods: Lectures, Tutorials, Writing workshops, Excursions and Class presentations. • Assessment: Continuous

A subject in the Bachelor of Design (Graphic Design), (Industrial Design), (Interior & Exhibition Design).

**Aims & Objectives**

To introduce international students to different cultural modes of learning. To develop a framework of learning that allows for cross-cultural differences. To assist international students in their transition into an Australian University environment by providing an integrated learning experience.

**Content**

The course will provide an introduction to the meaning of design and its historical, stylistic and cultural development. Special attention is given to:

- Developing communication and comprehension skills.
- Developing students’ understanding of the need to form their own opinions and arguments, and how to support them effectively both in tutorial settings and in written work.
- Generally encouraging confidence and independence in both written and oral abilities.
- Examining assumptions on which many arguments are based, which are not necessarily part of the world view of non-Australian or non-Western cultures.

The classes will revolve around key ideas and themes from Design History and Critical Theory 1 with an emphasis being placed on cultural specificity. Students are required to attend the lectures and film screenings in Design History and Critical Theory 1.
HDHCT12D Ideas, Culture and Communication 2

12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prahran • Prerequisite: HDHCT12C 
Teaching methods: Lectures, tutorials, writing workshops, excursions and class presentations. Content from Design History and Critical Theory 1 is used to develop advanced reading, research and essay writing skills. Assessment: Continuous
A subject in the Bachelor of Design (Graphic Design), (Industrial Design), (Interior & Exhibition Design).

Aims & Objectives
To introduce international students to different cultural modes of learning. To develop a framework of learning that allows for cross-cultural differences. To assist international students in their transition into an Australian University environment, by providing an integrated learning experience.

Content
The course will provide an introduction to the meaning of design and its historical, stylistic and cultural development. Special attention is given to:
- Developing communication and comprehension skills.
- Developing students’ understanding of the need to form their own opinions and arguments, and how to support them effectively both in tutorial settings and in written work.
- Generally encouraging confidence and independence in both written and oral abilities.
- Examining assumptions on which many arguments are based, which are not necessarily part of the world view of non-Australian or non-Western cultures.

The classes will revolve around key ideas and themes from Design History and Critical Theory 1 with an emphasis being placed on cultural specificity. Students are required to attend the lectures and film screenings in Design History and Critical Theory 2.

HDHCT3 Modernism and Mass Culture

12.5 Credit Points • 12 Weeks • 3 Hours per Week • Prahran • Prerequisite: HDHCT12 or HDHCT12A 
Teaching methods: Two weekly lectures and a weekly tutorial.  Assessment: Continuous, Examinations.
A subject in the Bachelor of Design (Graphic Design), (Industrial Design) and (Interior & Exhibition Design).

Aims & Objectives
To develop students’ frames of reference for design practice through an exploration of developments in design, art and consumer culture in the post-WWII period. The aim is to introduce students to the symbolic structures of material culture and further stimulate their understanding of how design objects, consumer goods and works of art function as vehicles of social and cultural meaning. The subject seeks to:
- Challenge the conventional nature of students’ historical, visual, social and cultural frames of reference.
- Stimulate thought and discussion around the nature and complex social roles of material culture.
- Consolidate research and writing skills.
- Further develop oral presentation skills and confidence in articulating ideas.
- Facilitate interchange between design and history activities.

Content
The program focuses on developments in design, art and consumer culture from the period immediately after WWII to the present, concentrating on the values and practice of late Modernism, its dissolution into Postmodernism and their relationship to post-war consumer culture, with the aim of enabling students to develop a critical discourse about design and its social role. Special emphasis is placed on contemporary debates about the relationship of elite culture to mass culture and the emergence of design for social responsibility from the 1960s onwards.

References
Extensive bibliographies will be handed out with specific references for assignment work. General introductory texts, however, are:

HDHCT4 Modern/Postmodern

12.5 Credit Points • 12 Weeks • 3 Hours per Week • Prahran • Prerequisite: HDHCT3 
Teaching methods: Two weekly lectures and a weekly tutorial.  Assessment: Continuous, Examinations.
A subject in the Bachelor of Design (Graphic Design), (Interior & Exhibition Design) and (Industrial Design).

Aims & Objectives
To develop student’s frames of reference for design practice through an exploration of developments in design, art and consumer culture in the post-WWII period. The aim is to introduce students to the symbolic structures of material culture and further stimulate their understanding of how design objects, consumer goods and works of art function as vehicles of social and cultural meaning. The subject seeks to:
- Challenge the conventional nature of students’ historical, visual, social and cultural frames of reference.
- Stimulate thought and discussion around the nature and complex social roles of material culture.
- Consolidate research and writing skills.
- Further develop oral presentation skills and confidence in articulating ideas.
- Facilitate interchange between design and history activities.

Content
The program focuses on developments in design, art and consumer culture from the period immediately after WWII to the present, concentrating on the values and practice of late Modernism, its dissolution into Postmodernism and their relationship to post-war consumer culture, with the aim of enabling students to develop a critical discourse about design and its social role. Special emphasis is placed on contemporary debates about the relationship of elite culture to mass culture and the emergence of design for social responsibility from the 1960s onwards.

References
Extensive bibliographies will be handed out with specific references for assignment work. General introductory texts, however, are:
HDHCT401 Research Methods

12.5 Credit Points • 12 Weeks • 75 Hours per Week • Prerequisite: HDHCT6 • Teaching methods: Weekly seminars and workshops. • Assessment: A proposal for a research project which includes a literature review and study plan.

A subject in the Bachelor of Design (Design History and Critical Theory) (Honours)

Aims & Objectives
To provide students with necessary research skills.

Content
In this subject students will revisit library and online research methods, the use of archives, interviews and surveys, and strategies for visual/object research and interpretation. Students will be encouraged to develop new methods to research and understand design as a specific discipline and practice, and to understand the importance of framing a research question.

HDHCT402 Design in Australia

25 Credit Points • 25 Weeks • 8 Hours per Week • Prerequisite: HDHCT401 & HDHCT402 • Teaching methods: This is a self-driven project which the student will conduct in close consultation with their supervisor. They will also seek advice from experts outside the School and University. • Assessment: An exhibition and catalogue, virtual or otherwise.

A subject in the Bachelor of Design (Design History and Critical Theory) (Honours).

Aims & Objectives
To develop primary research skills and advance the knowledge of the history of design in Australia. To develop methods for visual research and writing about design and for placing this knowledge in the public arena.

Content
The student will investigate a designer, topic or issue pertaining to the history of design in Australia. This project will involve extensive archival work and oral history. The outcome will take the form of an exhibition which will be accompanied by a catalogue essay.

References

HDHCT5 Design and the Production of Culture

12.5 Credit Points • 12 Weeks • 75 Hours per Week • Prerequisite: HDHCT401 • Teaching methods: Seminar program based on excursions, set readings and class discussion. • Assessment: Continuous

A subject in the Bachelor of Design (Graphic Design), (Industrial Design) and (Interior & Exhibition Design).

Aims & Objectives
The excursions are designed to engage students in the analysis of the contemporary environment. Readings, group work and assignments aim to develop students’ ability to understand and address how perceptions of objects, social spaces and structures and even ourselves are constructed through myth and diverse cultural production, notably design.

Content
The focus is commodity culture and the role of design in the construction of individual subjectivities and lifestyle narratives. This role of design in the construction of taste and its relationship to the rise of leisure and luxury industries, and the gentrification of the inner city, are explored. Issues pertaining to social responsibility and professional ethics are also addressed.

References
Baudrillard, J., For a Critique of the Political Economy of the Sign, Telos Press, St Louis, 1981.

HDIBL333 IBL Placement

75 Credit Points • 48 Weeks • 5 Days per Week • Nil • Teaching methods: To experience through contact, observation and practice the disciplines of the design industry, while under the supervision and guidance of professional practitioners. • Assessment: Continuous, Field Vists, Participation, Professional Interview

A subject in the Bachelor of Design (Graphic Design), (Industrial Design) and (Multimedia Design).

Aims & Objectives
• To provide the opportunities for selected students to further their practical design education while working in the industry.
• To develop practical design and production skills, to help clarify career paths, to develop interpersonal skills and to promote professional and business awareness.

Content
Students are placed in an appropriate industrial situation organised by the National School of Design in co-operation with employers.

HIDID103 Technology 1A

12.5 Credit Points • 12 Weeks • 60 Hours per Week • Nil • Prerequisite: Nil • Assessment: Continuous, Examinations, Project(s).

A subject in the Bachelor of Design (Industrial Design).

Aims & Objectives
• To provide and understanding of the materials and manufacturing processes.
• To gain a broad understanding of the design principles of commonly used manufacturing processes.
• To demonstrate the theory and safe work practice of modelmaking techniques used by Industrial Designers.
Content
This subject consists of two study areas:

Manufacturing Technology
- Identification and categorisation of commonly used materials.
- Analysis of the material and process selection.
- Principles for the manufacturing and assembly of, timber, ferrous and non ferrous metals and polymers.
- Design principles for commonly used materials and processes.

Modelmaking Technology
This subject explores the materials techniques and machinery used in the production of studio development models, visual models and prototypes. Students are instructed on the safe machine working practices and Occupational Health and Safety regulations.

HDID104 Technology 1B
12.5 Credit Points • 12 Weeks • 5 Hours per Week • Prahran • Prerequisite: HDID103 • Assessment: Continuous, Examinations, Project.
A subject in the Bachelor of Design (Industrial Design).

Aims & Objectives
- To develop an understanding of the materials and manufacturing processes.
- To gain a broad understanding of the design principles of the commonly used manufacturing processes.
- To demonstrate the theory and safe work practice of modelmaking techniques used by Industrial Designers.

Content
This subject consists of two study areas:

Manufacturing Technology
- Identification and categorisation of commonly used materials.
- Analysis of the material and process selection.
- Principles for the manufacturing and assembly of, timber, ferrous and non ferrous metals and polymers.
- Design principles for commonly used materials and processes.

Modelmaking Technology
This subject explores the materials techniques and machinery used in the production of studio development models, visual models and prototypes. Students are instructed on the safe machine working practices and Occupational Health and Safety regulations.

HDID201A Design Studio 2A
12.5 Credit Points • 12 Weeks • 5 Hours per Week • Prahran • Prerequisite: HDID101B • Teaching methods: Studio tutorials and discussion sessions, Class exercises and presentations, Set assignments • Assessment: Continuous.
A subject in the Bachelor of Design (Industrial Design).

Aims & Objectives
To explore the principles of design and design methodology. Students will develop their abilities to identify the key points in a design brief, and research and explore imaginative concepts which culminate in a comprehensive design proposal.

Content
In all activities emphasis on the understanding of Design Process will be reinforced. Creative problem solving, using knowledge gained in all areas of study will be expected. Appreciation of 3 dimensional form and aesthetic will be developed as well as the identification of issues involved in a design brief. Communication of ideas by 2 and 3 dimensional means, understanding of the task and the comprehension of appropriate technological requirements is also expected.

HDID202A Design Practice 2A
12.5 Credit Points • 12 Weeks • 5 Hours per Week • Prahran • Prerequisite: HDID101, HDID104 • Teaching methods: Lectures, tutorials and studio demonstrations; Appropriate involvement with external consultants; Class presentations and set practical exercises • Assessment: Continuous.
A subject in the Bachelor of Design (Industrial Design).

Aims & Objectives
To provide the knowledge and skills required for the student to communicate effectively in the studio environment using oral, written, visual and digital mediums.

Content
This subject consists of one study area, which introduces students to the following:
- Business Presentation: principles and practice of technical, formal and informal presentation skills, both written and spoken.
- Visual Presentation: instruction in the use of line, color, form and graphic to effectively communicate an idea in various presentations.
- Studio Design Communication: this studio will provide design and proposals as subject matter for Technical Writing and Visual Presentation exercises.

HDID203 Technology 2A
12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prahran • Prerequisite: HDID104 • Teaching methods: Weekly tutorials and studio demonstration. • Assessment: Continuous.
A subject in the Bachelor of Design (Industrial Design).

Aims & Objectives
- To develop an understanding of engineering drawing communication skills to Australian Standard AS1100.
- Introduce the fundamentals of Computer Aided Drafting and Computer Aided Design (CAD).

Content
This subject consists of two areas of study:

Engineering Drawing
- Development of the skills of orthogonal, 3rd angle projections and assembly drawings.
- Explore engineering drawing specifications of sections, dimensions, tolerancing surface finishing and welding symbols.
- Construction of intersecting surfaces and development of surfaces.

2D CAD Drawing
- Application of Computer Aided Drafting techniques.
- Understanding of basic commands including the use of layers, data storage and retrieval dimensioning.

References
**Aims & Objectives**

To develop independent decision making and a holistic approach to design, time/project management, and research. Appropriate work ethic, research and design skills, and professional attitudes will be adopted to allow a realistic transferral into industry or further study.

**Content**

Projects will introduce complex issues to challenge the student to investigate beyond the literal translation of the brief. A strong research base leading into design solutions and final outcome will be addressed through the production of project work to industry standard.

**References**

References to printed texts, exhibitions, and related gallery showings will be tabled as appropriate. Electronic media, such as the Internet, will also be used as research tools.

**HDID301B Design Studio 3B**

**Aims & Objectives**

To further develop independent decision making and a holistic approach to design, time/project management, and research. Appropriate work ethic, research and design skills, and professional attitudes will be adopted to allow a realistic transferral into industry or further study.

**Content**

Projects will introduce complex issues to challenge the student to investigate beyond the literal translation of the brief. A strong research base leading into design solutions and final outcome will be addressed through the production of project work to industry standard.

**References**

References to printed texts, exhibitions, and related gallery showings will be tabled as appropriate. Electronic media, such as the Internet, will also be used as research tools.

**HDID302A Design Practice 3A**

**Aims & Objectives**

To build on issues encountered in Design Studio 3B with the emphasis on professional detailing, research presentations and further design development. Focus will also be placed on an understanding of business related skills, and creative and professional development.

**Content**

Design Studio (4 hours /per week): An extension of projects developed in Design Studio 3B, with complementary exercises and research presentation.

Professional Studies (2 hours /per week): The following topics will be addressed: time management, project management, briefing, design proposals, finance, written communication, personal presentation techniques, and setting up a consultancy.
HDID502  Product Design 1

Aims & Objectives
To acquire skills in the development of two-dimensional and three-dimensional concepts associated with mass and batch production consumer products.

Content
Project-based assignments will be undertaken concentrating on the development of concepts derived from an initial briefing through to the final presentation. This process will be supported by a series of lectures and demonstrations highlighting aesthetics, methodology, material selection and ergonomics associated with advanced Industrial Design techniques and professional practice.

Recommended Reading
- Car Styling, Kaneko Enterprises Incorporated (Monthly publication).

HDID503  Product Design 2

Aims & Objectives
To build upon skills and techniques gained in "Product Design 1" with emphasis placed upon advanced principles of Design and Design Methodology. Students will refine their abilities to identify the key points in a Design brief, and to research and explore imaginative concepts which culminate in a comprehensive design proposal.

Content
Creative problem solving, and utilising knowledge gained in all areas of study will be expected. Project-based activities focussing on advanced techniques of concept development including studio-based model making techniques, software and two-dimensional methods of communication. This process will be supported by a series of lectures and demonstrations.

An emphasis will be placed upon the design and development of batch and mass production plastic components and products.

Recommended Reading

HDID601  Project

Aims & Objectives
The aim of the project is to apply the skills and knowledge acquired during the course to the design of an innovative product.

Content
The focus of the project will be the design and realisation of an innovative product. Given the facilities and staff expertise available at IRS, the emphasis will be on products with a significant use of plastics.

Individual projects will be agreed between students and the Project Coordinator. Each project will utilise expertise gained on the Course and integrate it, where possible, with skills and knowledge previously acquired. As such, projects may be industry sponsored.
or of direct relevance to the student’s employment. They may also be directly linked to a present or future business venture. Having identified the project, appropriate co-supervision will be agreed with the student.

During the course of the project, students will meet regularly with the Coordinating and Co-supervisors. Facilities at RIS and the School of Design will be available.

At the conclusion of the project, the product and supporting material will be presented in an exhibition, open to the public. A brief report will also be made available, describing key aspects of the project.

**Recommended Reading**

References will be provided by the supervisors.

**HDIDC401 Studio Practice**

<table>
<thead>
<tr>
<th>50 Credit Points</th>
<th>24 Weeks</th>
<th>4 Days per Week</th>
<th>Pratran</th>
<th>Prerequisite: Nil</th>
</tr>
</thead>
</table>

Teaching methods: Studio based consultation and direct involvement with industry. Assessment: Continuous

Bachelor of Design (Honours)(Industrial Design).

**Aims & Objectives**

To introduce, develop and foster professional experience through projects sourced from the manufacturing industry and the design profession.

**Content**

This subject will involve project management, client liaison, CAD, rendering, ergonomics and marketing. All aspects of professional practice will be covered.

**HDIEX102 Technology 1**

<table>
<thead>
<tr>
<th>12.5 Credit Points</th>
<th>12 Weeks</th>
<th>5 Hours per Week</th>
<th>Pratran</th>
<th>Prerequisite: Nil</th>
</tr>
</thead>
</table>

Teaching methods: Tutorials, field based site visits, studio based exercises. Tutorial-based delivery of this subject will be supplemented by various field based site visits. Studio based exercises would include practical drawing and sketching exercises. Assessment: Continuous

A subject in the Bachelor of Design (Interior and Exhibition Design).

**Aims & Objectives**

To provide students with knowledge of construction and documentation principles, standards and services commonly used in single storey/low rise residential scale buildings.

**Content**

This subject will cover the role of the various statutory authorities associated with the built environment, and interpret the various terminologies used in construction. This subject aims to provide through site investigation an understanding of construction sequencing, and the principles, construction standards and practices of various aspects of this class of construction. This subject is also an introduction to workshop practice, including model-making as a communication tool suited to interior and exhibition design.

**References**

Notes on the Science of Building, CSR2D publications, building materials manufacturers Timber, Steel and Concrete development associations.

**HDIEX103 Communications 1**

<table>
<thead>
<tr>
<th>12.5 Credit Points</th>
<th>12 Weeks</th>
<th>5 Hours per Week</th>
<th>Pratran</th>
<th>Prerequisite: Nil</th>
</tr>
</thead>
</table>

Teaching methods: Tutorials and Exercises. Assessment: Continuous

A subject in the Bachelor of Design (Interior & Exhibition Design).

**Aims & Objectives**

- To familiarise students with computing and associated software.
- To further develop keyboard skills.
- To develop basic skills in CAD for the production of basic technical drawing.

**Content**

- Introduction to the principles of CAD construction.
- Introduction to Architectural drawing standards - plans/elevations/sections.
- Manual drafting and drawing board skills.

**References**

Students will be expected to purchase relevant manuals of the latest software - e.g. Inside AutoCAD R13.

**HDIEX201A Design Project 1**

<table>
<thead>
<tr>
<th>12.5 Credit Points</th>
<th>12 Weeks</th>
<th>4 Hours per Week</th>
<th>Pratran</th>
<th>Prerequisite: HDIEX101B</th>
</tr>
</thead>
</table>

Teaching methods: Exercises and assigned project work will be undertaken within the studio environment. These activities will be supported by lectures, practical demonstrations, tutorials and seminar sessions, group discussion and critiques. Assessment: Continuous

A subject in the Bachelor of Design (Interior and Exhibition Design).

**Aims & Objectives**

This subject seeks to consolidate and enhance the experiences gained in the previous year’s program. Activities within this study area will provide a challenging range of sequential and cumulative learning experiences within the broad context of interior and exhibition design. It also seeks to extend the students’ theoretical knowledge and practical ability to prepare high order working drawings, to build communication skills with external consultants and suppliers and to incorporate the information into working drawings and project specifications.

**Content**

The program of study will include a wide range of contextually oriented project based activities with an increasingly applied design focus. Assigned project work will require students to continually investigate various aspects of the system of relationships, which exist between the three organising concepts: Body - Object - Environment. Project based activities will extend a student’s experience and knowledge of studies undertaken in the previous year and will provide opportunities to seek innovation through experimentation, consideration of theoretical studies in design and related activities, and other key developmental concepts.

**References**

Students will be referred to specific References as required

**HDIEX201B Design Project 2**

<table>
<thead>
<tr>
<th>12.5 Credit Points</th>
<th>12 Weeks</th>
<th>4 Hours per Week</th>
<th>Pratran</th>
<th>Prerequisite: HDIEX101B</th>
</tr>
</thead>
</table>

Teaching methods: Studio activities and projects, tutorials, audiovisual presentations. Assessment: Continuous

A subject in the Bachelor of Design (Interior and Exhibition Design).

**Aims & Objectives**

- To build on and enhance the skills and knowledge developed in the previous year.
- To promote independent decision making and an understanding of industry-based references, procedures and techniques.

**Content**

Projects will be designed to introduce complex issues which will challenge the student to investigate solutions in a lateral and innovative manner. The student will be encouraged to expand their understanding of the development of ideas through applying their skills to assigned projects. Relevant research and course documentation will support projects.

**References**

Students will be referred to project specific references and supplied with class notes as applicable.

**HDIEX202A Technology 2**

<table>
<thead>
<tr>
<th>12.5 Credit Points</th>
<th>12 Weeks</th>
<th>4 Hours per Week</th>
<th>Pratran</th>
<th>Prerequisite: HDIEX102</th>
</tr>
</thead>
</table>

Teaching methods: Tutorials, Field based site visits, Studio based exercises. Assessment: Continuous.

A subject in the Bachelor of Design (Interior and Exhibition Design).

**Aims & Objectives**

To provide students with knowledge of construction and documentation principles, standards and services commonly used interior and exhibition design.

**Content**

Studio based exercises including practical model-making, workshop practice, technical drawing and material analysis exercises. Material Science will entail delivery by the use of instruction, visual examples, field studies and practical work related to building projects studies. In particular it will consider the characteristics, standards, applications, maintenance, selection and identification of the following materials: Building Construction 1A: this subject covers timber/timber products, concrete/ concrete products, clay products, stone, mortars, plaster/plasterboard, metals, glass, coatings, plastics, sealants, adhesives, alternate materials and new products. These materials will be assessed in terms of their conversion/manufacture, availability and lead time, defects, testing, handling and storage degradation, preservation and maintenance, compatibility, environmental safety, and fire effectiveness.
**HDIEX202B Technology 3**

12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prahran • Prerequisite: HDIEX102

- Teaching methods: Tutorials, Field based site visits, Studio based exercises. The subject will be delivered through instruction, visual examples, field studies and practical drawing work related to building. Assessment: Continuous

A subject in the Bachelor of Design (Interior and Exhibition Design).

**Aims & Objectives**

To provide students with knowledge of construction and documentation principles, standards and services commonly used in interior and exhibition design.

**Content**

The tutorial-based delivery of this subject will be supplemented by various field based site visits. Studio based exercises would include practical drawing, sketching exercises and Light and Shade studies.

Material Science 2A: the subject will provide knowledge of the role of the various statutory authorities associated with the built environment. It will also interpret the various terminologies used in construction. This subject aims to instil, through site investigation, an understanding of construction sequencing, and the principles, construction standards and practices of various aspects of this class of construction.

**References**


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**HDIEX203A Communication 2**

12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prahran • Prerequisite: HDIEX103

- Teaching methods: Tutorials and exercises • Assessment: Continuous

A subject in the Bachelor of Design (Interior and Exhibition Design).

**Aims & Objectives**

- To advance students skills in Technical drawing, computing and associated software.
- To further develop manual and keyboard skills.
- To develop basic skills in 3D Viz for the production of basic 3D Modelling.

**Content**

- Introduction to the principles of 3D Modelling.
- Introduction to Architectural drawing - Perspective.
- Manual drawing board skills.

**References**

Students will be expected to purchase relevant manuals of the latest software - e.g. 3D Viz R12.

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**HDIEX203B Communications 3**

12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prahran • Prerequisite: HDIEX103

- Teaching methods: Tutorials, Demonstrations, Practical projects. • Assessment: Continuous

A subject in the Bachelor of Design (Interior and Exhibition Design).

**Aims & Objectives**

To provide students with the knowledge and skills to use CAD for the production of 2D and 3D drawings to an advanced level.

**Content**

This unit will give the student theoretical and practical skills required to provide 2D and 3D working drawings and an understanding of CAD drawing management. Topics include:

- Library creation and data importation.
- System variables and configuration.
- Applying efficient procedures for production of CAD drawings.
- Production of complex 2D CAD drawings to industry standards.
- Set up a 3D environment to allow multi-view of 3D models.
- Create a variety of internal and external views.
- Display solid, shaded and rendered views of 3D models.
- Save selected views and drawings on file for plotting and printing.

**References**

Students will be expected to purchase relevant manuals of the latest software - e.g. Inside AutoCAD R2000.
Aims & Objectives
To provide students with knowledge of construction and documentation principles, standards and services commonly used in interior and exhibition design.

Content
Tutorial-based delivery of this subject will be supplemented by various field-based site visits. Studio-based exercises would include practical drawing and sketching exercises. Building Construction 1B This subject aims to provide, through site investigation, an understanding of construction sequencing, and the principles, construction standards and practices of various aspects of this class of construction in relation to complex space.

References

HDIEX302B Technology 5
12 Credit Points • 12 Weeks • 4 Hours per Week • Prahran • Prerequisite: HDIEX202B
• Teaching methods: Tutorials, Field based site visits, Studio based exercises.
• Assessment: Continuous
A subject in the Bachelor of Design (Interior and Exhibition Design).

Aims & Objectives
To provide students with knowledge in technical detailing. To expand the student’s knowledge of the characteristics and quality standards of building materials, with particular emphasis on materials commonly used in commercial and industrial buildings.

Content
Materials Science 2B
Advanced study of standards, applications, maintenance, selection, detail solutions and identification of the following materials: Timber/timber products, concrete/concrete products, clay products, stone, mortars, plaster/plasterboard, metals, glass, coatings, plastics, sealants, adhesives, alternate materials and new products.

These materials will be examined in terms of their conversion/manufacture, availability and lead time, defects, testing, handling and storage degradation, preservation and maintenance, compatibility, environmental safety, fire protection/resistance, placement, installation, application, tolerance, alternative uses, cost comparison and effectiveness.

References

HDIEX303A Communications 4
12.5 Credit Points • 12 weeks • 4 Hours per Week • Prahran • Prerequisite: HDIEX203A • Teaching methods: Tutorials, Demonstrations, Practical projects.
• Assessment: Continuous
A subject in the Bachelor of Design in Interior and Exhibition Design

Aims & Objectives
• To provide students with the knowledge and skills to create 3D models, presentation rendered drawings, ‘fly by’ and ‘walkthrough’ animations.
• To provide students with the ability to respond to industry briefs and acquire general communication skills.

Content
This subject has two study areas:
• Electronic: this unit will give the student advanced techniques for preparing 3D models and animations for presentation.
• Professional Practice: this study area will give students a general understanding of the business environment through a study of time management, communication, briefing, writing, and proposal writing.

References
Students will be expected to purchase relevant manuals of the latest software - e.g. Inside AutoCAD R13.

HDIEX303B Communications 5
12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prahran • Prerequisite: HDIEX203A • Teaching methods: Tutorials, Demonstrations, Practical projects.
• Assessment: Continuous
A subject in the Bachelor of Design in Interior and Exhibition Design

Aims & Objectives
• To provide students with the knowledge and skills to use CAD for the production of 2D and 3D drawings to an advanced level.
• To provide students with the ability to respond to the business environment and management practices.

Content
This subject has 2 study areas:
Electronic: This unit will give the student theoretical and practical skills at an advanced level required to provide 2D and 3D working drawings and an understanding of CAD drawing management. Topics include:
• Library creation and data importation.
• System variables and configuration.
• Applying efficient procedures for production of CAD drawings.
• Production of complex 2D CAD drawings to industry standards.
• Set up a 3D environment to allow multi-view of 3D models.
• Create a variety of internal and external views.
• Display solid, shaded and rendered views of 3D models.
• Save selected views and drawings on file for plotting and printing.

Professional Practice:
• To develop an understanding of the business environment focussing on effective design management practices.

References
Students will be expected to purchase relevant manuals of the latest software - e.g. Inside AutoCAD R13.

HDIEX310 IED Studio 2
12.5 Credit Points • 12 Weeks • 5 Days per Week • Prahran • Prerequisite: HDIEX 202/203 • Teaching methods: A series of practical projects enhanced by tutorials and demonstrations and linked to studio based exercises.
• Assessment: Continuous
A subject in the Bachelor of Design (Interior and Exhibition Design).

Aims & Objectives
The Electronic Studio is designed to specifically enhance students’ knowledge of Digital and Electronic based programs and design.

Content
Set projects will increase the student’s knowledge of digital equipment and/or electronic media and enhance presentation skills and the use of the computer as a design tool. Programs will include:
• Photoshop.
• Illustrator.
• 3Dviz.
• AutoCAD.

References
Software handbooks as appropriate.

HDIEX333 Work Placement
37.5 Credit Points • 1 Semester • 5 Days per Week • Prahran • Prerequisite: Nil • Teaching methods: To experience, through contact, observations and practice, the disciplines of the interior/exhibition design industry, under the supervision and guidance of professional practitioners.
• Assessment: Continuous
A subject in the Bachelor of Design (Interior and Exhibition Design).

Aims & Objectives
Generally, to provide the opportunities for students to further their practical design education while working in industry. Specifically, to develop practical design and production skills, to help clarify career paths, to develop interpersonal skills and to promote professional and business awareness.

Content
Students are placed in an appropriate industrial situation organised by the National School of Design in co-operation with employers.

HDIEX401A Design Project 5
37.5 Credit Points • 12 Weeks • 14 Hours per Week • Prahran • Prerequisite: HDIEX301A/B, HDIEX302A/B, HDIEX303A/B • Teaching methods: Studio based
Aims & Objectives
Design: students will be able to consolidate their existing skills and develop new skills specific to their thesis project requirements. Communicate ideas and demonstrate a clear and articulate knowledge of the design process and methodologies. They will work collaboratively in a design team environment, and learn to participate as individuals in the development of knowledge and ideas within a broader industry climate. Students will develop a research ethic and use design as a tool for solving interesting problems.

- Technology: students will be able to consolidate their existing skills and develop new skills specific to contemporary technologies and apply them to professional practice. They will learn to use technology as a means of driving and finding design solutions. They will also develop professional skills and knowledge in designing with computers using drawing and 3D programs, and professional skills and knowledge of materials and how to use them for specific project aims and intentions.

Content
This subject is in two study areas: Design: This subject researches specific ideas, data and relevant material to establish a full thesis intention as a set of questions relevant to Interior Design and Exhibition Design. Students will work toward making individual or group thesis proposals. Their proposals can be developed both from individual enquiry and in collaboration with sponsors and specific Industry briefs. Particular focus will be put on designing with:

- Materials for environmental and sustainable design.
- Designing with data, i.e. in a post digital climate, social geographies, industry standards.
- Developing strategies for Exhibiting, i.e. Museumology, Art installation, Trade.
- Phenomenology: making a synthesis of critical ideas and technical solutions, i.e. windows, doors, openings, light and shadow, color etc.
- The development testing and documentation of ideas.

Students will further develop as necessary, including the use of computer skills, model making and drawing skills useful for communicating at an advanced level. Students will also learn appropriate skills in software programs for desk top publishing and exhibiting, and establish strategies for documenting and technical detailing for specific design solutions.

References
Students will be referred to project specific references as applicable.

HDIEX401B Design Project 6
37.5 Credit Points • 12 Weeks • 14 Hours per Week • Prerequisite: HDIEX301A/B, HDIEX302A/B, HDIEX303A/B • Teaching methods: Studio based consultation and direct involvement with industry. • Assessment: Continuous
A subject in the Bachelor of Design (Interior and Exhibition Design).

Aims & Objectives
Design: students will learn how to communicate their ideas as a visual language capable of describing how we receive and experience specific Interior and Exhibition Design space. They will develop a new level of professional skills, find new uses for materials and use technology as a design tool for solving interesting problems. Students will be encouraged to test their thesis idea by design. Students will also develop a design in response to a thesis question and drive their own work at a professional standard. Students will create a finished presentation and thesis document, and exhibit the work as a clear and articulate representation of skills and knowledge of a specific field of enquiry.

Technology: students will be able to consolidate their existing skills and develop new skills specific to contemporary technologies and apply them to professional practice; they will learn to use technology as a means of driving and finding design solutions.

Content
Design: students will learn to develop and test their individual design concept using specific ideas, data and relevant material researched in Project A. Student will learn how to seek answers to their own specific set of criteria described by them individually in Project A. They will learn how to carefully develop the design process from schematic design through to documentation for final presentation as a synthesis of their theories, ideas and technology.

Technology: develop professional skills and knowledge in designing with computers using drawing and 3D programs, as well as professional skills and knowledge of materials and how to use them for specific project aims and intentions. Students will further develop computer skills, model making and drawing skills useful for communicating. They will learn appropriate skills in software programs for desk top publishing and exhibiting, and establish strategies for documenting and technical detailing for specific design solutions.

References
Students will be referred to project specific references as applicable.

HDIEX402A Materials and Technology Research A
12.5 Credit Points • 12 Weeks • 3 Hours per Week • Prerequisite: All Year 3 subjects • Teaching methods: Exercises and assigned project work will be undertaken within the studio environment. Lectures, practical demonstrations, tutorials and seminar sessions, group discussion and critiques will support these sessions. • Assessment: Continuous
A subject in the Bachelor of Design (Interior and Exhibition Design)

Aims & Objectives
Materials and Technology Research offers advanced tutorials in Research Methodology, Computing and Technology. This program links directly with DIEX 401 and will consolidate skills and experience required in the outcomes of that subject.

Content
It is expected that the tutorials will assist the students to achieve a high order of working drawings and develop a thorough understanding of technology and the research methodology required in the resolution of the major project undertaken in HDIEX401.

References
Students will be referred to project-specific references as applicable.

HDIEX402B Materials and Technology Research B
12.5 Credit Points • 12 Weeks • 2 Hours per Week • Prerequisite: All year 3 subjects • Teaching methods: Exercises and assigned project work will be undertaken within the studio environment. Lectures, practical demonstrations, tutorials and seminar sessions, group discussion and critiques will support these sessions. • Assessment: Continuous
A subject in the Bachelor of Design (Interior and Exhibition Design)

Aims & Objectives
Materials and Technology Research offers advanced tutorials in Research Methodology, Computing and Technology. This program links directly with DIEX 401 and will consolidate skills and experience established in that subject.

Content
It is expected that the tutorials will assist the students to achieve a high order of working drawings and develop a thorough understanding of technology and the research methodology required in the resolution of the major project undertaken in HDIEX401. Advanced computer tutorials will also assist communication and presentation of final projects.

References
Students will be referred to project-specific references as applicable.

HDMI303 Image Based Design
12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prerequisite: HDG201, HDG202 • Teaching methods: Project work supplemented by work in tutorial groups, continuous critical review of work in progress, group discussion and demonstrations. • Assessment: Continuous
A subject in the Bachelor of Design (Graphic Design).

Aims & Objectives

- To provide opportunity for increased investigation into, and development of, image making craft skills and to develop a personal signature image making style.
- To explore numerous image making techniques, ranging from traditional media to new digital methodologies.
- To develop sound idea generation methodologies in relation to creating images.
- To encourage creative, innovative and expressive development in image creation.
- To further develop aspects of professional design practice.

Content
Image Based Design will explore, via project work, complex applied design solutions, building on the work undertaken in Image-making 1. Innovative and creative design responses to a variety of design projects, both in 2D and 3D formats, will be
encouraged. Analysis of appropriateness of imagery and its relevance to its media context will occur.

**HDMD101 Design for Multimedia 1**

12.5 Credit Points • 1 Semester • 4 Hours per Week • Prahran • Prerequisite: Nil •
Teaching methods: Studio (computer laboratory) tuition with continual practical experience through exercises and set tasks. • Assessment: Assignments

A subject in the Bachelor of Design (Multimedia Technology).

Aims & Objectives

To develop an understanding of basic design principles and visualisation techniques.

Content

- Understanding and rehearsing the elementary use of the elements of design: line, shape, form, colour, tone, and texture, as well as primary extensions into pattern, repetition and combination in an electronic environment.
- Typography for electronic media.
- Elementary integration of design elements into extended 4D environment.
- Basic storyboarding, script concept and development.
- Animation and sequencing.
- Introduction of sound - basic audio principles.
- Use of appropriate design software ie. Adobe Photoshop. Macromedia Director.

References


**HDMD102 Design for Multimedia 2**

12.5 Credit Points • 1 Semester • 4 Hours per Week • Prahran • Prerequisite: HDMD101 • Teaching methods: Studio (computer laboratory) tuition with continual practical experience through exercises and set tasks.

A subject in the Bachelor of Applied Science (Multimedia Technology).

Aims & Objectives

To develop an understanding of basic design principles and visualisation techniques.

Content

- Understanding and rehearsing the elementary use of the elements of design: line, shape, form, colour, tone, and texture, as well as primary extensions into pattern, repetition and combination in an electronic environment.
- Typography for electronic media.
- Elementary integration of design elements into extended 4D environment.
- Basic storyboarding, script concept and development.
- Animation and sequencing.
- Introduction of sound - basic audio principles.
- Use of appropriate design software ie. Adobe Photoshop. Macromedia Director.

References


**HDMD104A Multimedia Design Practice 1A**

12.5 Credit Points • 12 Weeks • 6 Hours per Week • Prahran • Prerequisite: Nil •
Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques. • Assessment: Continuous

A subject in the Bachelor of Design (Multimedia Design).

Aims & Objectives

- To develop an understanding of the practice of design in multimedia design methods and technology.
- To introduce the fundamental aspects of the content, function and context of visual communication.

Content

This subject has three study areas:

Visual Communication 1: involves the investigation of fundamental aspects of design and key aspects of communication through various projects. Projects will introduce students to the principles of design that help the design process in various media. Projects and workbooks will describe the design strategies that inform the practice of multimedia design. Presentations will provide an understanding of the structural and spatial organisation that describes aspects of visual communication.

Typography: explores the fundamental aspects of typography: letterform, structure, symbolic and communicative abilities as applied across and combined with print based and CBT based media. Introduces major typeface groups and their application to headline and text settings. Instruction on using drawing/layout and digital imaging software. Understanding the Macintosh operating system and the organisation and planning of digital data.

Multimedia Scripting and Internet Communication: introduces the World Wide Web and describes its operation as a communication medium. Introduces Web browsers, servers and the necessary technical considerations for effective delivery such as: bandwidth issues and compromises, text and hypertext, image files (GIF and JPEG). Basic and intermediate HTML, frames and tables. ISP services and FTP file delivery.

References


Spiekerman & Giner, Stop Stealing Sheep & find out how type works, Adobe Press (Prentice Hall), 1993.


**HDMD104B Multimedia Design Practice 1B**

12.5 Credit Points • 12 Weeks • 6 Hours per Week • Prahran • Prerequisite: Nil •
Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques. • Assessment: Continuous

A subject in the Bachelor of Design (Multimedia Design).

Aims & Objectives

- To further develop an understanding of the practice of design in multimedia design methods and technology.
- To further develop an understanding of the fundamental aspects of the content, function and context of visual communication.

Content

This subject has three study areas:

Visual Communication 1: involves the investigation of fundamental aspects of design and key aspects of communication through various projects. Projects will introduce students to the principles of design that help the design process in various media. Projects and workbooks will describe the design strategies that inform the practice of multimedia design. Presentations will provide an understanding of the structural and spatial organisation that describes aspects of visual communication.

Typography: explores the fundamental aspects of typography: letterform, structure, symbolic and communicative abilities as applied across and combined with print based and CBT based media. Introduces major typeface groups and their application to headline and text settings. Instruction on using drawing/layout and digital imaging software. Understanding the Macintosh operating system and the organisation and planning of digital data.

Multimedia Scripting and Internet Communication: investigates the World Wide Web and describes its operation as a communication medium. Introduces Web browsers, servers and the necessary technical considerations for effective delivery such as: bandwidth issues and compromises, text and hypertext, image files (GIF and JPEG). Basic and intermediate HTML, frames and tables. ISP services and FTP file delivery.

**HDMD201 Design for Multimedia 3**

12.5 Credit Points • 1 Semester • 4 Hours per Week • Prahran • Prerequisite: HDMD102 • Corequisites: Nil

A subject in the Bachelor of Applied Science (Multimedia Technology).

Aims & Objectives

To develop and extend an understanding of the principles of Interactive Multimedia.

Content

- Applied multimedia scripting.
- Digital Audio techniques.
- Digital Video editing with appropriate software programs ie. Adobe Premiere, Quick Time, Movie Player, Sound Edit 16.
- Basic principles of video camera work - panning, focussing, zoom time sequence, lighting etc. Shooting of scenes, characters. Use of tripod, hand held techniques.
This subject has three study areas.

Drawing: Students will be required to investigate format and spatial organisation, scale, mass and weight, structure, depth, tone, texture, pattern, movement, colour and a variety of media. Concepts of pictorial arrangement, movement, spatial relationships, image composition, selection and editing will be explored in projects. Understanding of colour in application is further developed.

Script Writing and Animation: students will be required to investigate the narrative form and develop concepts into visual outcomes through format and spatial organisation, scale, structure, texture, pattern, movement, colour in a variety of 2D and 3D dimensional media. Concepts of pictorial arrangement in storyboarding, movement, spatial relationships, image composition, selection and editing will be explored in projects. Understanding of animation in application is further developed.

Multimedia Design Research Project: Students prepare a comprehensive document that explains their research method, interest, special skills and abilities, understanding of language and imaging by synthesising multimedia design into a major visual communication project. Narrative structure, storyboarding, animation, 3D modelling, audio and video, construction, materials, language and digital technology may be explored. Students will be able to work on a mentor.

References
Spiekerman & Giner, Stop Stealing Sheep & find out how type works, Adobe Press (Prentice Hall), 1993.

HMD203B Multimedia Design 2B
12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prerequisite: DCP101, DMD104A, DMD104B • Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques. • Assessment: Continuous
A subject in the Bachelor of Design (Multimedia Design).

Aims & Objectives
To further enhance and develop knowledge and experience of design for multimedia through an understanding of a visual language and narrative form as applied over time. To apply specific design systems in conceptual and critical problem solving in multimedia design and visual communication.

Content
This subject has three study areas:

Drawing: Students will be required to investigate format and spatial organisation, scale, mass and weight, structure, depth, tone, texture, pattern, movement, colour and a variety of media. Concepts of pictorial arrangement, movement, spatial relationships, image composition, selection and editing will be explored in projects. Understanding of colour in application is further developed.

Script Writing and Animation: students will be required to investigate the narrative form and develop concepts into visual outcomes through format and spatial organisation, scale, structure, texture, pattern, movement, colour in a variety of 2D and 3D dimensional media. Concepts of pictorial arrangement in storyboarding, movement, spatial relationships, image composition, selection and editing will be explored in projects. Understanding of animation in application is further developed.

Multimedia Design Research Project: students prepare a comprehensive document that explains their research method, interest, special skills and abilities, understanding of language and imaging by synthesising multimedia design into a major visual communication project. Narrative structure, storyboarding, animation, 3D modelling, audio and video, construction, materials, language and digital technology may be explored. Students will be able to work on a mentor.

References
Spiekerman & Giner, Stop Stealing Sheep & find out how type works, Adobe Press (Prentice Hall), 1993.

HMD204A Multimedia Design Practice 2A
12.5 Credit Points • 12 Weeks • 6 Hours per Week • Prerequisite: HMD104A/B • Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques. • Assessment: Continuous
A subject in the Bachelor of Design (Multimedia Design).

Aims & Objectives

• To develop an understanding of the practice of design in multimedia design methods and technology.

• To introduce the fundamental aspects of the content, function and context of visual communication.

Content
This subject has three study areas:

Visual Communication 1: Study will continue to investigate key aspects of design and communication through various projects. The projects will further develop the principles of design that help define and refine the design process in various media. Projects and workbooks will describe the design strategies that inform the practice of multimedia design. To apply specific design systems in conceptual and critical problem solving.

Audio and Video 1: Introduction to the basics of video and audio techniques. Establishes a level of understanding of basic principles of video camera work-panning, focussing, lighting, shooting of scenes and characters using tripod and hand held techniques. Compares analog and digital input and output, image capture, editing, manipulation, compression considerations for CD ROM and WWW delivery. Establishes a level of understanding of audio requirements for digital multimedia outcomes, investigation into human audio capabilities. Digital audio capture, manipulation and outcome considerations as applied to voice, music and ambient requirements.

Interactive Multimedia Scripting: Internet Communication: further exploration of the World Wide Web as a communication medium. Introduction to vector and bitmap animation delivery. Introduction to industry standard authoring software packages and Lingo scripting for interactive production.

References
Spiekerman & Giner, Stop Stealing Sheep & find out how type works, Adobe Press (Prentice Hall), 1993.
Aims & Objectives

To provide the opportunity for increased investigation into, and development of time based media from an exploration of content and form, within interactive digital media and/or video production.

To encourage creative and expressive development of design, narrative form, and sequenced image making for multimedia.

Content

Advanced investigation and research into time based media particularly as narrative form, script writing and development through storyboarding into prototype production. Constant definition and exploration of human computer interaction and exploration of interactive techniques as applied to time based visual communication. Creative, innovative and expressive development of video image/sound/interactive forms will be encouraged.

References

Spiekerman & Giner, Stop Stealing Sheep & find out how type works, Adobe Press (Prentice Hall), 1993.

HDMD303B Multimedia Design Studio 3B

12.5 Credit Points • 12 Weeks • 4 Hours per Week • Prahran • Prerequisite: HDMD203A/B • Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques • Assessment: Continuous

A subject in the Bachelor of Design ( Multimedia Design).

Content

Advanced investigation and research into time based media particularly as narrative form, script writing and development through storyboarding into prototype production. Constant definition and exploration of human computer interaction and exploration of interactive techniques as applied to time based visual communication. Creative, innovative and expressive development of video image/sound/interactive forms will be encouraged.

References

Stop Stealing Sheep & find out how type works, Spiekerman & Ginger-Adobe Press (Prentice Hall) 1993.

References

Web Design in a Nutshell, 2nd edn, Niedert, O'Reilly, 2001
Film Design, Van Ax, (Basel School of Design), Van Nostrand Reinhold NY 1983
Spiekerman & Giner, Stop Stealing Sheep & find out how type works, Adobe Press (Prentice Hall), 1993.

References

Web Design in a Nutshell, 2nd edn, Niedert, O'Reilly, 2001
Film Design, Van Ax, (Basel School of Design), Van Nostrand Reinhold NY 1983
Spiekerman & Giner, Stop Stealing Sheep & find out how type works, Adobe Press (Prentice Hall), 1993.
investigation of industry standard authoring software packages and advanced Lingo scripting for interactive production.

Design Management: presentation of the principles and practices involved in being professionally engaged as a design practitioner. Planning, development and design of individual, industrially focused folio documents.

References
Web Design in a Nutshell, 2nd edn, Niedert, O'Reilly, 2001
Designing Web Usability: The Practice of Simplicity, Nielsen, New Riders, 2000
Film Design, Van Arx, (Basel School of Design), Van Nostrand Reinhold, 1983

HDMD400A Multimedia Technology 4A

Aims & Objectives
- To further develop an understanding of the practice of design in multimedia design methods and technology.
- To explore the content, function and context of visual communication as applied to multimedia.

Content
This subject has three study areas:
Visual Communication: students will investigate key aspects of design and communication through various projects. The projects will further develop the principles of design that help define and refine the design process in various media. They will also apply specific design systems in conceptual and critical problem solving. Projects and workbooks will describe the design strategies that inform the practice of multimedia design.

Digital Audio and Video: advanced enquiry into video and audio techniques. This will cover principles of video camera work: panning, focussing, lighting, shooting of scenes, characters using tripod and hand held techniques. It will also provide a comparison of analog and digital input and output, image capture, editing, manipulation, compression considerations for CD ROM and WWWW delivery. Audio requirements for digital multimedia outcomes, investigation into human audio capabilities, digital audio capture, manipulation and outcome considerations as applied to voice, music and ambient requirements, will also be covered.

Interactive Multimedia Scripting, Internet Communication: exploration of interactive mediums and the World Wide Web. This will cover animation, information architecture and communication within these mediums using industry standard authoring software packages. HTML, action scripting and coding for interactive applications for CD ROM, the WWWW and other specific mediums will be explored.

References
Web Design in a Nutshell, 2nd edn, Niedert, O'Reilly, 2001
Designing Web Usability: The Practice of Simplicity, Nielsen, New Riders, 2000

HDMD400B Multimedia Technology 4B

Aims & Objectives
- To further develop an understanding of the practice of design in multimedia design methods and technology.
- To explore the content, function and context of visual communication as applied to multimedia.

Content
This subject has three study areas:
Visual Communication: students will investigate key aspects of design and communication through various projects. The projects will further develop the principles of design that help define and refine the design process in various media. They will also apply specific design systems in conceptual and critical problem solving. Projects and workbooks will describe the design strategies that inform the practice of multimedia design.

Digital Audio and Video: advanced enquiry into video and audio techniques. This will cover principles of video camera work: panning, focussing, lighting, shooting of scenes, characters using tripod and hand held techniques. It will also provide a comparison of analog and digital input and output, image capture, editing, manipulation, compression considerations for CD ROM and WWWW delivery. Audio requirements for digital multimedia outcomes, investigation into human audio capabilities, digital audio capture, manipulation and outcome considerations as applied to voice, music and ambient requirements, will also be covered.

Interactive Multimedia Scripting, Internet Communication: exploration of interactive mediums and the World Wide Web. This will cover animation, information architecture and communication within these mediums using industry standard authoring software packages. HTML, action scripting and coding for interactive applications for CD ROM, the WWWW and other specific mediums will be explored.

References
Web Design in a Nutshell, 2nd edn, Niedert, O'Reilly, 2001
Designing Web Usability: The Practice of Simplicity, Nielsen, New Riders, 2000

HDMD401A Individual Multimedia Project 4A

Aims & Objectives
- To develop an understanding of the practice of design and narrative structure in multimedia design methods and technology
- To introduce the fundamental aspects of the content, function and context of visual communication within a multimedia project

Content
This subject consists of an individual minor project through which the student will investigate aspects of design, structure and sequence for multimedia. The project will develop the special principles of design that help the design process in various media. Projects and workbooks will describe the design strategies that inform the practice of multimedia design. Presentations will demonstrate an understanding of the structural, sequencing and spatial organisation that describes aspects of visual communication. Investigations will begin into audio, video, animation, motion graphics and 3D modelling requirements for digital delivery.

References
Stop Stealing Sheep & find out how type works, Spiekerman and Ginger-Adobe Press (Prentice Hall)1993
Web Design in a Nutshell, 2nd edn, Niedert, O'Reilly, 2001
Designing Web Usability: The Practice of Simplicity, Nielsen, New Riders, 2000

HDMD401B Individual Multimedia Project 4B

Aims & Objectives
- To further develop an understanding of the practice of design and narrative structure in multimedia design methods and technology
- To explore the content, function and context of visual communication within a multimedia project

Content
This subject consists of an individual minor project through which the student will investigate aspects of design, structure and sequence for multimedia. The project will develop the special principles of design that help the design process in various media. Projects and workbooks will describe the design strategies which inform the practice of multimedia design. Presentations will demonstrate an understanding of the structural, sequencing and spatial organisation that describes aspects of visual communication. Investigations will begin into audio, video, animation, motion graphics and 3D modelling requirements for digital delivery.
Aims & Objectives

- To develop an understanding of the practice of design and narrative structure in multimedia design methods and technology.
- To reinforce the fundamental aspects of the content, function, and context of visual communication within a multimedia project.

Content

This subject consists of a major group project through which students will investigate aspects of design and sequence for multimedia outcomes. This will be a group determined project. The project will develop the principles of design which assist the design process in various media. Projects and workbooks will describe the design strategies that inform the practice of multimedia design. Presentations will provide an understanding of the structural, sequencing and spatial organisation that describes aspects of visual communication. Investigations will continue into audio, video, animation, filmic imagery and 3D modelling requirements for digital delivery.

As part of this subject students will submit a minor thesis that will explore issues relating to their major project. Issues such as contextuality, technology delivery and content development and reasoning will be raised and discussed.

References

- Web Design in a Nutshell, 2nd edn, Niedert, O'Reilly, 2001
- Designing Web Usability: The Practice of Simplicity, Nielsen, New Riders, 2000

HDM403B Group Multimedia Project 4B

12.5 Credit Points • 12 Weeks • 6 Hours per Week • Prerequisite: DGD301, DMD 303, DMD 304 • Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques. • Assessment: Continuous

A subject in the Bachelor of Design (Honours)(Multimedia Design)

Aims & Objectives

- To further develop an understanding of the practice of design and narrative structure in multimedia design methods and technology.
- To explore the context, function and content of visual communication within a multimedia project.

Content

This subject consists of a major group project through which students will investigate aspects of design and sequence for multimedia outcomes. This will be a group determined project. The project will develop the special principles of design that help the design process in various media. Projects and workbooks will describe the design strategies that inform the practice of multimedia design. Presentations will provide an understanding of the structural, sequencing and spatial organisation that describes aspects of visual communication. Investigations will continue into audio, video, animation, filmic imagery and 3D modelling requirements for digital delivery.

As part of this subject students will submit a minor thesis that will explore issues relating to their major project. Issues such as contextuality, technology delivery and content development and reasoning will be raised and discussed.

References

during the project period. Skill instruction will be provided during prototype construction and testing.

**References**


Students will be referred to reference texts depending on specific project content.

**HDPD121 Product Design 2**

12.5 Credit Points • 1 Semester • 72 Hours • Prahran • Prerequisite: HDPD111 • Teaching methods: Project based learning 36 Hours, Computer Laboratory 36 Hours. • Assessment: Assignments, Project(s), Tests.

A subject in the Bachelor of Engineering (Product Design Engineering).

**Aims & Objectives**

- To apply engineering sciences to product design.
- To develop three dimensional problem solving techniques.
- To introduce Computer Aided Design.
- To develop spreadsheet and business presentation computer skills.
- To develop awareness of design history.
- To develop prototyping and testing skills.

**Content**

Engineering Computer Graphics (30%):

- Introduce basic principles of Computer Aided Design.
- Hardware, input devices, menu structure, toolbars, commands, drawing elements, dimensions, blocks, filing, printing.

Product Design (55%):

- To incorporate engineering sciences of Energy and Motion in project based problem solving.
- Project management, group dynamics, research and product investigation, further development of creative thinking and idea generation.
- Design for engineering sciences, application of ergonomic principles. Product critiques and presentation skills.
- History of design.
- Product detailing and illustration techniques.

Computing (15%):

- Advanced spreadsheet, business presentation programs.
- The project based learning will be guided by two core staff members, one Engineer and one Product Designer. Lectures and tutorials on the topic under study will be delivered during the project period. Skill instruction will be provided during prototype construction and testing.

**References**


Students will be referred to reference texts depending on specific project content.

**HDPD221 Product Design 4**

12 Credit Points • 1 Semester • 72 Hours • Prahran • Prerequisite: HDPD211 • Teaching methods: Project based learning 48 Hours, Computer Laboratory 24 Hours. • Assessment: Assignments, Project(s), Tests.

A subject in the Bachelor of Engineering (Product Design Engineering).

**Aims & Objectives**

- To incorporate engineering sciences of Solid Mechanics, Engineering Materials and Processes in project based problem solving.
- Develop products utilising three dimensional Computer Aided Design.
- To develop skills in conceptualisation and product development.
- To appreciate the role of the product design engineering profession.
- To develop team based learning skills.
- To develop an awareness of recycling, environmental factors and ecologically sustainable products.

**Content**

Computer Aided Design (30%):

- Analysis of product development utilising 3D CAD.
- Introduction to surface modelling and parametric design.
- Product design development and detailing using CAD.
- Projects utilising engineering sciences of Solid Mechanics, Engineering Materials and Processes.
- Group and individual problem solving projects for recycling and ecological sustainable products.
- Prototyping and product testing techniques.
- Product investigation and performance analysis.
- Application of ergonomic principles.
- Investigation of contemporary design and the design engineering profession.
- The project based learning will be guided by two core staff members, one Engineer and one Product Designer. Lectures and tutorials on the topic will be delivered during the project period. Skill instruction will be provided during prototype construction and testing.

**References**


Students will be referred to reference texts depending on specific project content.

HDPD311 Product Design 5

12.5 Credit Points • 1 Semester • 72 Hours • Prerequisite: HDPD221 • Teaching methods: Project based learning 54 Hours, Tutorials 18 Hours. • Assessment: Assignments, Project(s)

A subject in the Bachelor of Engineering (Product Design Engineering).

Aims & Objectives

• To incorporate engineering sciences of Dynamics, Manufacturing Technology and Engineering Materials in project based problem solving.
• To develop project management skills.
• To develop an ability to select materials and processes for product design and manufacturing.
• To develop engineering specifications and documentation for product design.
• To develop skills in conceptualisation and product development.

Content

Product Design 100%:
• Group and individual problem solving projects incorporating Dynamics, Manufacturing Technology and Engineering Materials.
• Projects investigating dynamic behaviour of products with rotating or reciprocating components.
• Engineering specifications of materials and manufacturing processes.
• Product design incorporating electronic components.
• Utilisation of CAD in product detailing and specifications.
• Data exchange for rapid prototyping.
• Research and implementation of ergonomic data.
• Project management, charting techniques, critical path analysis, conflict management resolution, MS Project.

The project based learning will be guided by two core staff members, one Engineer and one Product Designer. Lectures and tutorials on the topic under study will be delivered during the project period. Skill instruction will be provided during prototype construction and testing.

References


Students will be referred to reference texts depending on specific project content.

HDPD321 Product Design 6

25 Credit Points • 1 Semester • 144 Hours • Prerequisite: HDPD311 • Teaching methods: Project based learning 122 Hours, Tutorials 20 Hours. • Assessment: Assignments, Project(s)

A subject in the Bachelor of Engineering (Product Design Engineering).

Aims & Objectives

• To incorporate engineering sciences of Thermodynamics, Fluid Mechanics and Machine Design in project based problem solving.
• To apply business and project management skills to product design.
• To develop an understanding of International standards, patents and intellectual property and performance standards.
• To develop the ability to apply material and manufacturing process selection to product design.

Content

Product Design 100%:
• Manage and participate in a group design activity.
• Design for manufacturing and distribution of a limited volume product.
• Project planning and critical path analysis, research industrial processes, material selection, cost analysis, break even analysis, application of manufacturing processes.
• Dimensional and tolerance analysis of plastic and metal assemblies.
• Basic Marketing concepts, product life cycle, retailing, concepts of value adding, packaging, distribution.
• Application of ISO and Australian standards.
• Patent search, intellectual property laws.
• Engineering specifications, 3D CAD data, Engineering drawings, assembly drawings, ergonomic analysis.
• Project presentation to peers and industry professionals.

The project based learning will be guided by two core staff members, one Engineer and one Product Designer. Lectures and tutorials on the topic under study will be delivered during the project period. Skill instruction will be provided during prototype construction and testing.

References


Students will be referred to reference texts depending on specific project content.

HDPD511 Product Design 7

12.5 Credit Points • 1 Semester • 72 Hours • Prerequisite: HDPD321 • Teaching methods: Project based learning 72 Hour, Invited guest lecturers from industry. • Assessment: Assignments, Project(s)

A subject in the Bachelor of Engineering (Product Design Engineering).

Aims & Objectives

• To develop Product Design Engineering skills applied to more complex engineering problems and projects.
• To apply design and professional skills in developing products utilising advanced technology for manufacture.
• To apply business and project management skills to product design.
• To utilise Australian and International standards in designing products.
• To utilise patents and intellectual property in the design of products.
• To develop the ability to design products and processes for manufacture.

Content

Product Design (100%):
• Researching and developing products for advanced technology in engineering or medical science.
• Introduction to risk engineering, reliability, failure rates, Series and parallel systems, common mode failure rates, preventative maintenance, condition monitoring techniques.
• Benchmarking, design for quality, concurrent engineering.
• Design of tooling for manufacture.
• Use of computer methods for efficient product and tooling design.
• Project presentation to peers and industry professionals.

The project based learning will be guided by two core staff members, one Engineer and one Product Designer. Lectures and tutorials on the topic under study will be delivered during the project period. Skill instruction will be provided during prototype construction and testing.

References


Students will be referred to reference texts depending on specific project content.

HDPD512-522 Professional Project

25 Credit Points • 2 Semesters • 144 Hours • Hawthorn, Prahran • Prerequisite: Nil • Teaching methods: Design supervision and consultation by appointed academic and/or industrial supervisor. • Assessment: Final Report Presentation, Project Progress, Prototype.

A subject in the Bachelor of Engineering (Product Design Engineering).
Aims & Objectives

- To develop skills in planning and executing an innovative project.
- To develop skills in the research of the literature and prior art.
- To develop skills in writing and presenting a major project report.
- To demonstrate the ability to integrate knowledge and skills acquired during the course.
- To demonstrate the ability to complete a full project from inception to achieving stated deliverables.
- To demonstrate the ability to communicate by presenting a professional seminar.

Content

Students may select a project from a list prepared by academic staff, or may suggest their own topic based on individual interest, or arising from their period of Industry-based Learning. The project may be university based or industry based. It may take various forms involving technology, research and development, experimental work, computer analysis, industry liaison and business skills. Students are expected to conduct literature and state-of-the-art surveys, formulate and define problems, generate and select solutions, and analyse and prepare designs. Where appropriate, students will build and test their design. Projects are undertaken under the close supervision of a staff member who meets regularly with the students to discuss and assure progress. Total student time spent on the project is expected to be a minimum of 140 hours.

References


Further references as recommended by the supervisor to support the students project.

HDPD521 Product Design 8

25 Credit Points  24 Weeks  3 Hours per Week  Prahran  Prerequisite: Nil

A subject in the Bachelor of Engineering (Product Design Engineering).

Aims & Objectives

- To incorporate engineering sciences of Manufacturing Systems and Sensor Technology in project based problem solving.
- To develop Professional Product Design Engineering skills applied to complex industry based engineering problems.
- To apply business and project management skills to product development.
- To utilise patents and intellectual property in the design of products.
- To develop the ability to design products and processes for economic manufacture.

Content

- Use of mechatronics and the application of micro controllers in product design.
- Design for manufacture utilising the application of automatic control and sensor technology.
- Investigation of laser technology and its application to product design and manufacture.
- Exploration of the psychology and culture in relation to product design.
- Project presentation to peers and industry professionals.

The project based learning will be guided by two core staff members, one Engineer and one Product Designer. Lectures and tutorials on the topic under study will be delivered during the project period. Skill instruction will be provided during prototype construction and testing. Invited guest lecturers from Industry.

References


Students will be referred to reference texts depending on specific project content.

HDRES400 Design Research

25 Credit Points  24 Weeks  3 Hours per Week  Prahran  Prerequisite: Nil

Teaching methods: Research will be undertaken using a combination of empirical and bibliographic sources. Research will also involve studio/workshop activity. Both will be undertaken in consultation with staff. Assessment: Research Paper
HDTYP302 Typography
12.5 Credit Points  • 12 Weeks  • 6 Hours per Week  • Prahran  • Prerequisite: DGD201 and DGD202  • Teaching methods: Project work will be undertaken in a studio context supplemented by work in tutorial groups; continuous critical review of work in progress, working in small teams and group discussion. The briefs will be supported by presentations of visual and background research in a group tutorial situation by staff and/or students.  • Assessment: Continuous
A subject in the Bachelor of Design (Graphic Design).
Aims & Objectives
• To provide the opportunity for investigation into typography as a fundamental aspect of visual communication through project work.
• To demonstrate and expand upon a formal understanding of the conventions of typographic design.
• To encourage creative and expressive development of typographic communication.
• To further develop skills in pertinent software applications (image making and text based).
• To contribute to the students’ development of sound idea generation methodologies.
• To further develop aspects of professional design practice.
Content
Each student will study in three different areas, each dealing with a fundamentally different aspect of typography:
• Publication - will examine text setting and typography as used in print.
• Image based - will look at type as image.
• Interface - will explore how type is utilised in new, digital, screen based media.
References

HDTYP303 Publication Design
12.5 Credit Points  • 1 Semester  • 4 Hours per Week  • Prahran  • Prerequisite: HGD201, HGD202  • Teaching methods: Project work will be undertaken in a studio context supplemented by work in tutorial groups; continuous critical review of work in progress, working in small teams and group discussion. The briefs will be supported by presentations of visual and background research in a group tutorial situation by staff and/or students.  • Assessment: Continuous
A subject in the Bachelor of Design (Graphic Design).
Aims & Objectives
• To provide the opportunity for investigation into typography as a fundamental aspect of visual communication through project work.
• To demonstrate and expand upon a formal understanding of the conventions of typographic design.
• To encourage creative and expressive development of typographic communication.
• To further develop skills in pertinent software applications (image making and text based).
• To contribute to the students’ development of sound idea generation methodologies.
• To further develop aspects of professional design practice.
Content
Each student will study in three different areas, each dealing with a fundamentally different aspect of typography:
• Publication - will examine text setting and typography as used in print.
• Image based - will look at type as image.
• Interface - will explore how type is utilised in new, digital, screen based media.
References

HEF1000 Professional Engineering
12.5 Credit Points  • 1 Semester  • 72 Hours  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Lectures 12 Hours, Tutorials/Projects 60 Hours.  • Assessment: Assignments, Examinations, Research Paper, Tutorials.
A subject in the Bachelor of Engineering (Biomedical Engineering), Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Business, Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Business, Bachelor of Engineering (Electrical & Electronics), Bachelor of Engineering (Electronics & Computer Systems).
Aims & Objectives
• To develop an understanding of the nature of engineering as a profession and the social and environmental responsibilities involved in professional practice.
• To develop students’ communications skills for their future role as professional engineers.
• To improve students’ confidence in expressing ideas and opinions and working as a part of a team.
• To develop students’ ability to graphically communicate ideas and designs using engineering standards and conventions.
• To assist students to demonstrate these understandings through the completion of an engineering design project.
Content
Communications and professional skills (50%):
• What is engineering and what do engineers do?
• History of engineering.
• The culture of the engineering profession and ethical responsibilities.
• Design problem definition and solution.
• The design process.
• The role of communications in engineering.
• Oral communication skills and formal technical report writing.
• Teamwork and team management skills.
• Engineers and the environment.
Graphical communication (50%):
• Introduction to graphical communications.
• Concepts of 3D visualisation.
• Sketching and drawing in isometric projection.
• Presentation of drawings according to standards.
• Relationships between 2D and 3D graphical presentations.
• Orthogonal projection.
• Dimensioning.
• Intersections and auxiliary views.
• Assembly drawings.
• Spatial relations of lines and surfaces.
• Development of design ideas using sketches.
• Graphical presentation of design projects.
Textbook
References

HEF1005 Engineering Project
12.5 Credit Points  • 1 Semester  • 60 Hours  • Hawthorn  • Prerequisite: HEF1000  • Teaching methods: Lectures (12 hours) Supervised workshop/tutorials (24 hours), Workshop/tutorial with technical support (24 hours)  • Assessment: All projects will be assessed according to the following structure: Log of project development (written or electronic): 40% of total marks. Individually assessed. Final report in any appropriate, negotiable, storable format: 30% of total marks, Team assessment. Oral presentation of project: 20% of total marks, Team assessment. Self assessment and reflection: 10% of total marks, Individually assessed.
A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Business, Bachelor of Engineering (Electrical & Electronics Engineering), Bachelor of Engineering (Electronics & Computer Systems).
Aims & Objectives
By the completion of the project subject students will have:
• Experience in the work of a professional engineer in a representative context, and shared in the experience of other students engaged in other projects, leading to a more inclusive understanding of the engineering profession.
• Developed an appreciation of the social context of engineering work.
• Conducted an engineering design project from conception to final product.
• Constructed a richer understanding of fundamental engineering concepts through active engagement with these concepts in an application to ‘real world’ problems.
• Developed problem identification and solution skills.
• Further developed skills (introduced in EF1000) in working as part of a team.
• Gained skills in accessing, interpreting and using information from a range of sources.
• Improved skills in a range of communication modes.
• Developed time management and organisational skills.
• Developed physical skills appropriate to the project type.
• Reflected on personal strengths and weaknesses, and developed a better understanding of themselves as learners and individuals moving into an engineering career.

Content
Students will work in groups of 3 or 4 throughout the semester to complete an approved engineering project. Standard projects will be offered, but a team of students with particular interests may devise their own, in consultation with staff.

Projects may be selected from any of the engineering disciplines offered at Swinburne University, but do not constitute any direct or implied commitment to that discipline in second year. For example, a student enrolled in a Bachelor of Electrical Engineering may choose to do a project based in the Civil Engineering discipline, yet continue into the Electrical Engineering stream in second year.

The style of possible projects varies widely, from a multi-team design office approach to a large multifaceted infrastructure problem, to the design and construction of individual machines or electronic devices to meet a specific specialised need.

All projects, however, are assessed using the same range of structures, with strong emphasis on the ability to communicate effectively in written and oral forms not only the final outcome of the project, but to be able to identify and reflect upon the design process and the associated teamwork issues encountered during the semester.

References
There are no prescribed texts, though the early lectures will introduce students to a wide range of information resources available through the library and the procedures for accessing that information. A dedicated engineering librarian is also available to assist students in accessing and interpreting both print and digital information.

HEI611 The Entrepreneurial Organisation

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, classes and case studies. • Assessment: Team Project, Individual Case Analysis, Case Studies.

A Stage 1 subject in the Master of Entrepreneurship & Innovation suite.

Aims & Objectives
By the end of the semester, students will be able to:

• Define and describe the entrepreneurial organisation.

• Describe and apply key principles and theories of organisational behaviour in new ventures.

• Use appropriate personnel practices in developing a new business.

• Apply principles and theories of organisational behaviour to the development of opportunities in corporations.

Content
Focuses on the skills necessary to evaluate, plan and manage the organisational requirements of a new enterprise or for introducing an innovation into an existing system and culture.

Individual Topics:
• Entrepreneurship – What is it.

• Introduction to OB terminology and an OB model.

• Determinants of Individual Behaviour.

• Determinants of Group Behaviour.

• OB as a Management Tool.

• Method for Analysing and Solving Case Studies and Practical Problems in Organisational Behaviour.

• Motivation Theories.

• Motivational Practices in Entrepreneurial Organisations.

• Leadership Issues and Problems.

• Power.

• Using OB Principles to Change Organisations.

• When Things go Wrong.

• The Structure of Organisations.

• Principles of Organisational Development.

References

HEI621 New Venture Finance

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Classes and Tutorials • Assessment: Individual Assignment, Individual Class Contribution, Group Assignment and Presentation.

A Stage 1 subject in the Master of Entrepreneurship & Innovation suite.

Aims & Objectives
By the end of the semester, students will be able to:

• Identify and explain aspects of financial information which are important in the decision making process.

• Demonstrate mastery of fundamental accounting concepts and basic practical financial modelling techniques.

• Apply financial theory in the financial analysis of a venture.

• Demonstrate effective use of accounting information.

• Explain the limitations of accounting information.

Content
• What is Financial Management?

• Financial Statements.

• Manufacturing.

• Merchandising.

• Service.

• Deriving Financial Statements.

• Developing a financial model.

• Recognition and measurement of financial elements.

• Financial Statement Analysis.

• Assessment for Investment Decision Making.

• Profit measurement and short term decision making.

• Financial maths.

• Evaluating the relevance of accounting information.

References

HEI631 New Venture Marketing

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Class sessions involving discussion, case exercises and active participation of all class members • Assessment: Individual and Group Assignments/Reports.

A Stage 1 subject in the Master of Entrepreneurship & Innovation suite.
Aims & Objectives

Students who have passed this subject should possess the skills necessary to dispassionately and professionally evaluate the broad range of marketing problems and opportunities facing a new or rapidly growing enterprise by applying the knowledge of fundamental marketing principles acquired in this course. Graduates of this course should be able to contribute valuable input in any business situation where marketing issues are concerned.

By the end of the semester, students will be able to:

- Identify and evaluate marketing issues relevant to new and existing business situations.
- Apply appropriate marketing tools when dealing with marketing issues.
- Assess the core competence of their organisation.
- Develop skills and strategies that increase sales of products and services.
- Determine strategies for market research and analysis, market entry and long term business development.
- Develop plans which recognise and integrate product, price, promotion and distribution activities.
- Develop a practical and realistic marketing plan to support the launch of new products or services.

Content

- Marketing Concepts.
- The Marketing Environment.
- Markets.
- Competitors.
- Marketing Plans.
- Marketing Research.
- Consumer Behaviour.
- Product.
- Marketing Channels.
- Price.
- Marketing Communication.
- Portfolio Analysis.
- Emerging Ideas.

References


HEI691 Opportunity Evaluation

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Classes and Case Studies • Assessment: Group Assignments, Case Study, Class Participation.

Aims & Objectives

Upon completion of this course students will have obtained the tools and mindset to:

- Apply the entrepreneurial process to development of opportunities in corporations.
- Use appropriate personnel practices in developing a new business.
- Describe and apply key principles and theories of organisational behaviour in new ventures.
- Use appropriate personnel practices in developing a new business.
- Apply the entrepreneurial process to development of opportunities in corporations.

Content

- The options for growth.
- Topics covered during the course include:
  - Introduction to Innovation.
  - Sources of Innovation.
  - Opportunity Recognition.
  - New Venture Screening Guide.
  - Presentation Skills.
  - Alternative Business Growth Strategies.
  - Evaluation of options and their implications.
  - Techniques for evaluating Innovation Strategies.

References

Kiyosaki, R., The Cashflow Quadrant.
Kiyosaki, R., Rich Dad Poor Dad.

HEI711 Managing the Growing Business

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Classes and case discussion, guest lecturers, student presentations. • Assessment: Class Presentation, Group Report, Individual Paper.

Aims & Objectives

By the end of the semester, students will be able to:

- Identify the stages of business growth and the problems and opportunities to be managed.
- Recognise the increasing complexities of the growing enterprise.
- Describe the functional, planning and control needs of each stage.
- Recognise the different leadership styles appropriate to each stage of business growth.
- Identify the practices by which business maintains innovation and plan for business harvest.
- Describe and apply key principles and theories of organisational behaviour in new ventures.
- Identify the stages of business growth and the problems and opportunities to be managed.
- Use appropriate personnel practices in developing a new business.
- Apply the entrepreneurial process to development of opportunities in corporations.

Content

- OB general model.
- Case analysis techniques.
- Key features of Business Growth models and Diagnostic tools.
- The six Phases of Company Growth.
- The DSP Model.
- How Entrepreneurs Craft Strategies that Work.
- Turning Ideas into Products.
- Decision Making Behaviour in smaller Entrepreneurial and Larger Professionally Managed Firms.
- Managing Innovation: Controlled Chaos.
- Organisational Learning: The Key to Management Innovation.
- Capturing Value from Technological Innovation.
- Innovation and Industrial Evolution in Manufacturing Industries.
- Value Innovation: The Strategic Logic of High Growth.
- The Work of Leadership.
- What We Know about the Creative Process.
- Managing Research and Development.
- Mastering Technology.
- Managing Intellectual Assets.
Aims & Objectives
By the end of the semester, students will be able to:

- Demonstrate mastery of fundamental financial mathematics and basic practical financial modelling techniques.
- Apply these techniques in the financial analysis, planning and management of a venture.
- Apply financial analysis techniques by producing a comprehensive financial plan for a venture embodied in an accurate and credible set of projected financial statements for inclusion in a business plan.
- Objectively evaluate financial projections from the point of view of a prospective investor and arrive at a valuation for the venture.
- Demonstrate a broad knowledge of financing of ventures.
- Apply theoretical knowledge acquired in this subject to other financial areas not covered in this course.

Content
- Financial Environment.
- New Venture Finance vs. Traditional Finance.
- Understanding and applying financial maths.
- The Basic Financial Maths Formulas.
- Investment Project Evaluation.
- Capital Structure.
- Business Valuation Techniques.
- Liability & Equity Management Issues.
- Sources of capital.
- Asset Management.
- Legal Structures.
- Contract Law.
- Consumer Protection.
- Company Law.
- Intellectual Property.
- Employment Law.
- Taxation.

References

HEI721  Financial & Legal Strategies
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HEI621
Teaching methods: Classes and Tutorials
Aims & objectives
By the end of the semester, students will be able to:

- Describe the various sources of capital for new ventures and the critical skills needed to evaluate and select the most appropriate sources for a specific venture.
- Read and use financial statements to develop a financial plan.
- Develop operating procedures.
- Create contingency plans and identify risks.
- Identify members of infrastructure and build a management team.

Content
- Why write a business plan.
- The Business plan outline.
- Entrepreneurial characteristics & myths.
- Business Start-up.
- Concept development.
- The Management Team.
- Infrastructure.
- Legal forms of organisation.
- Intellectual property.
- Product/service plan.
- Contracts and leases.
- Government Regulations.

HEI791  The Business Plan
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Stage 1 subjects
Teaching methods: Classes, guest lectures and case study discussion
Aims & Objectives
By the end of the semester, students will be able to:

- Recognise viable venture opportunities.
- Create an effective business plan for a new business.
- Explain the various business entry strategies available to entrepreneurs.
- Identify the skills needed and the means available to collect market information about a new business venture.
- Describe the various sources of capital for new ventures and the critical skills needed to evaluate and select the most appropriate sources for a specific venture.
- Read and use financial statements to develop a financial plan.
- Develop operating procedures.
- Create contingency plans and identify risks.
- Identify members of infrastructure and build a management team.

Content
- Why write a business plan.
- The Business plan outline.
- Entrepreneurial characteristics & myths.
- Business Start-up.
- Concept development.
- The Management Team.
- Infrastructure.
- Legal forms of organisation.
- Intellectual property.
- Product/service plan.
- Contracts and leases.
- Government Regulations.
HEI800 Supervised Practical Project
12.5 Credit Points • 1 Semester • 2 Hours per Week • Hawthorn
An elective subject in Stage 3 of the Master of Entrepreneurship & Innovation.

Aims & Objectives
By the end of the semester, students will be able to:

- Understand principles of International Marketing from an Australasian perspective.
- Develop strategies to gather and analyse appropriate information within international markets.
- Recognise and manage culture differences.
- Understand constraints and sources of international finance.
- Devise entry strategies to international markets.

Content
- The International Marketing Environment
- The International Economic and Financial Environment
- The Cultural Environment of International Business
- The Political and Legal Environment
- The Information and Technology Environment
- International Marketing Mix
- Market Selection and Entry
- Planning and Strategy for International Marketing
- Modifying Products and Services for International Markets
- Promotion and Advertising Overseas
- Pricing for Profit
- Effective International Distribution

HEI821 Growth Venture Evaluation
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, videos, case studies and discussion • Assessment: Team Project, Case Studies, Major Assignment
A Stage 3 subject in the Master of Entrepreneurship & Innovation suite.

Aims & Objectives
By the end of the semester, students will be able to:

- Apply the knowledge of principles gained in Stage 1 subjects to the analysis of case studies.
- Apply and extend the practical skills of financial modelling gained in Stage 2 subjects.
- Understand the key issues involved in successfully managing the transition from the startup phase to building a large enterprise.

Content
- Entrepreneurship—a working definition.
- The startup Process.
- The 5-Cs Model and System for Analysing New Ventures.
- The ECIPP Method of Dynamic Due Diligence.
- Venture Capital.
- What makes a good business plan?
- Applied Valuation Techniques: Beyond the CME Method.
- Attracting Stakeholders and alternative sources of finance.
- Securities Law and private financing in Australia.
- Describing, Creating and Protecting Intellectual Property in Australia.
- Evaluating and purchasing an existing business.
- Which form of legal organisation should a new venture choose?
- Key Issues in Managing Growth.
- Issues in corporate failure:
  - Bankruptcy,
  - Receivership and Turnaround.
- Different Methods of harvesting a new venture.
- Securities Law and initial public offerings in Australia.
Aims & Objectives
By the end of the semester, students will be able to:

- Identify the strategy concept and organisation concept of a corporation.
- Recognise the relevance of these concepts to the contexts of entrepreneurship, maturity, diversification, innovation and professionalism.
- Recognise how ‘entrepreneurial’ management differs from ‘professional’ management.
- Understand the importance of ‘culture’ in an organisation and its effect on venture opportunities.
- Design new ventures to optimise the odds for success in a corporate framework.

Content
- The Venture process and corporate strategy.
- Venture organisation and culture.
- Venture generation – entrepreneurial and innovation concepts.
- Changing management needs during the ventureship cycle.

References

HE1881 Entrepreneurial Research Project
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Stage 1 & 2 subjects • Teaching methods: Classes • Assessment: Research Proposal, Individual Entrepreneurial Research Project.

Aims & Objectives
By the end of the semester, students will be able to:

- Select and articulate a distinct research problem in the field of entrepreneurship (including a thorough, targeted literature search).
- Produce a research design capable of addressing that problem.
- Organise and commence the appropriate collection of data relevant to solving the chosen problem.
- Analyse data using quantitative and qualitative data analysis techniques appropriate to the chosen research problem.
- Prepare a report of the results of the analysis.

Content
- Defining research and distinguishing entrepreneurship research.
- Defining a Research Problem and Writing a Research Proposal.
- Generie Research Tools and Components.
- Literature Review and Research Design.
- Major Generic Research Methodologies.
- Research Writing.
- Data Analysis: The quantitative study.
- Data Analysis: The qualitative study.
- Aspects of Specialist Methodologies.
- Where to Next?

References
Emory, W.C., Business Research Methods, (Revd. edn. or later), Richard Irwin, Homewood, IL, 1993.
Neuman, W.L., Social Research Methods, Qualitative and Quantitative Approaches, Allyn & Bacon, Boston, 1991.

HE1891 Entrepreneurial Growth Project
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Stage 1 & 2 subjects • Teaching methods: Interactive Seminars, Class Discussion. • Assessment: Group Reports and Presentation.

Aims & Objectives
By the end of the semester, students will:

- Have completed a successful growth project for an entrepreneurial client enterprise.
- Understand what is necessary for a successful new venture to make the transition into a larger enterprise.
- Manage the growth planning process for that company.
- Understand the industry value chain they are working in.
- Listen to and understand the company’s management.
- Use innovation to create and plan growth opportunities for the client.
- Strategically position themselves and the team as ‘thought leaders’.
- Produce a business plan.
- Capitalise upon their skills in innovation and entrepreneurship to create a sustainable competitive advantage for their client.

Content

Students will form into teams. Each team is to find an existing business with an annual turnover of $5 million or more with considerable upside potential, and develop a plan to grow that business to double its present size over the next 3 – 5 years. The business could be a stand-alone company or a business unit within a larger company.

Planning should address all of the issues involved in this transition, including:

- Specific opportunities for growth.
- Resources that will be required, and when.
- Management structure.
- People, skills and competencies, and how to acquire them.
- Financing and how to get it.
- Administrative infrastructure that will be required to successfully support rapid growth.
- Ownership and governance issues.
- Managing whatever technology transition may be required.

The overriding criterion is that the existing business and the opportunities for growth should be real.

References

HES1125 Mechanics of Structures
12.5 Credit Points • 1 Semester • 80 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures 36 Hours, Tutorials, Projects 24 Hours. • Assessment: Assignments, Examinations.

A subject in the Bachelor of Engineering (Biomedical Engineering), Bachelor of Science (Biomedical Sciences), Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Business, Bachelor of Engineering (Electrical & Electronic Engineering), Bachelor of Engineering (Electrical & Electronic Engineering)/Bachelor of Applied Science (Medical Biophysics & Instrumentation), Bachelor of Engineering (Electrical & Electronic Engineering)/Bachelor of Arts, Bachelor of Engineering (Electrical & Electronic Engineering)/Bachelor of Business, Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Mechanical), Bachelor of Engineering (Mechanical)/Bachelor of Arts, Bachelor of Engineering (Mechanical)/Bachelor of Business, Bachelor of Engineering (Product Design), Bachelor of Engineering (Robotics and Mechatronics) and Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Applied Science (Computer Science & Software Engineering).

Aims & Objectives
- To assist students in developing coherent and demonstrable understandings about the equilibrium of rigid bodies under the action of applied forces and the behaviour of basic structural members, including the internal effects of applied loads.
To provide a learning environment where students are encouraged, by a range of appropriate teaching strategies, to actively engage in learning tasks.

Content
Equilibrium of static systems (60%):
- Forces, moment of a force, concurrent and coplanar force systems, resultant forces.
- Rigid body equilibrium, free body diagrams, equilibrium equations for two dimensions.
- Types of structural members.
- Types of loads and support reactions on structures, load paths.
- Internal actions on structures.
- Axial forces in simple pinned structures.
- Shear force and bending moment in beams.

Stress, strain and element behaviour (40%):
- Uniform stress and strain.
- Stress-strain relationships, tensile, compressive, shear and bearing stresses.
- Compatibility of composite members, allowable and yield stresses.
- Non-uniform stress and strain, section properties, bending and shear stresses.
- Short and long column behaviour, eccentrically loaded short columns.

References
To be advised.

HES1230 Materials and Processes
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures 36 Hours, Tutorials 14 Hours, Laboratory 10 Hours • Assessment: Assignments, Examinations, Laboratory Reports.

A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Business, Bachelor of Engineering (Electrical & Electronic Engineering), Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Mechanical), Bachelor of Engineering (Mechanical)/Bachelor of Arts, Bachelor of Engineering (Mechanical)/Bachelor of Business, Bachelor of Engineering (Robotic & Mechatronics)/Bachelor of Applied Science (Computer Science & Software Engineering).

Aims & Objectives
- To demonstrate an understanding of the essential properties of the major classes of materials by explaining their microstructure/property relationships.
- To develop an understanding of the principles of materials selection based on material properties and failure analysis.
- To understand the chemical processes involved in material degradation.
- To understand the interaction between manufacturing, material and properties in the context of economically and environmentally sustainable technology.

Content
Materials Selection (10%):
- Materials selection strategies.

Typical properties.

Properties by class of material.
- Relationship between properties and failure modes.
- Materials selection databases.

Textbook

References
Richardson, D.W., Modern Ceramic Engineering, Marcel Dekker, USA 1992.

HES1300 Robotics & Mechatronics Project 1
12.5 Credit Points • 1 Semester • 100 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures 24 Hours, Tutorials, Project 36 Hours.

A subject in the Bachelor of Engineering (Robotics & Mechatronics) and Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Applied Science (Computer Science & Software Engineering), Bachelor of Engineering (Mechanical)/Bachelor of Arts, Bachelor of Engineering (Mechanical)/Bachelor of Business, Bachelor of Engineering (Mechanical). 4

Aims & Objectives
- To develop an understanding of the social and environmental issues affecting engineering.
- To develop written and oral communication skills necessary for the role of a professional engineer.
- To develop skills in visualisation and graphical communications.
- To provide tools and techniques that will assist students when undertaking engineering projects.
- To complete preparatory design work for Mechatronics Project 2.

Content
Graphics and Design:
- Sketching methods and techniques.
- Drawings standards.
- Aesthetics.
- 2D and 3D graphical presentation.
- Descriptive geometry for engineering problem solving.
- Diagrams, charts, circuit and block diagrams.
- Methodical approach to developing design concepts using graphical means.
- Conceptual design.

Communications:
- Communications and engineering.
- Problem definition and solving.
- Written communication skills.
- Report writing.
- Teamwork and management skills.
- Verbal communication skills.
- Engineers and the environment.
- Negotiation skills.
- Dealing with difference.
- Conflict resolution.

Introduction to Design Projects:
- Introduction to electro-mechanical design principles.
- Design synthesis.
- Creative design methods - brainstorming, lateral thinking, analogies.
- Project planning.
- Computer modelling.
- Feasibility studies.
- Construction methods, Testing, Workshop Training Mechanical - Safety.
- Fitting.
- Introduction to machining and fabrication.

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To study the various reactions elements and compounds undergo.

To provide a thorough introduction to the basic concepts of chemistry necessary for biochemical and biotechnology studies.

To introduce basic practical skills for the handling and analysis of chemicals.

To establish the importance of chemical safety and precautions in the chemical laboratory and other hazardous environments.

Aims & Objectives

• To introduce the concepts and demonstrate the application of electro-mechanical devices through experimentation and hands-on learning.

• To provide an introduction to computer programming in a needs-based environment in which programming is needed to activate and control an autonomous robot constructed by the students.

• To stimulate future learning by early exposure to Mechatronic systems.

• To provide mechanical and electronic workshop training.

Content

• Computer Programming - Getting started, Using Interactive C, Data objects.

• Statements and expressions, Control flow, File formats and library.

• Multi-tasking, Error handling, Binary programs.

• Workshop Training Electronic - Mechanical machining and fabrication, Electronic component identification, Soldering, Wiring.

• Project Tutorials: Introduction to microcontrollers, sensors, motors and actuators.

• Electro-mechanical design principles.

• Project management.

• Project Labs.

• Construction of robotic project using microcontroller and electro-mechanical.

• Hardware from design created in ES1300 Project 1.

Textbook


<http://kcswww.media.mit.edu/groups/el/projects/handy-board>.


References


Swinburne Student Notes: Professional Skills Student Guide.

HES1300E Introduction to Chemistry

12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: Nil

Teaching methods: Lectures, Tutorials, Laboratory Sessions • Assessment: Computer Managed Learning 5%, Examinations 55%, Tutorial tests 15%, Practical work 15%, Practical exam 10%.

A subject in the Bachelor of Science (Chemistry), Bachelor of Science (Physical and Environmental Health), and Bachelor of Science (Biotechnology).

Aims & Objectives

• To provide a thorough introduction to the basic concepts of chemistry necessary for biochemical and biotechnology studies.

• To provide an understanding of the basic structure of elements and compounds and how this determines their interaction with each other.

• To study the various reactions elements and compounds undergo.

• To establish a thorough understanding of the quantitative aspects of chemical reactions.

• To study how useful electrical energy can be obtained from chemical reactions.

• To introduce basic practical skills for the handling and analysis of chemicals.

• To establish the importance of chemical safety and precautions in the chemical laboratory and other hazardous environments.

Content

• Elementary chemistry: structure of atom, mole concept, formulae, naming, introduction to the Periodic Table and simple calculations.

• Writing and balancing molecular, ionic and redox equations.

• Stoichiometry: calculations covering all types of chemical reactions with amounts of reactants and products expressed as mass, mole, concentration and volumes of gases.

• Review of gas laws and relevant calculations, properties of gases in solution.

• Equilibria: quantitative and qualitative aspects of gaseous, heterogeneous, acid-base, solubility and complex-ion equilibria. Major emphasis on acid-base equilibria, buffers, properties of acids and bases, pH measurement.

• Energy from chemical reactions. Galvanic cells, standard potentials and the Nernst Equation.

• Practical work covers measurement and errors, a study of chemical reactions and volumetric analyses including acid-base redox and complexometric titrations.

• Safety in the laboratory and application to potentially hazardous environments.

References


HES1500 Practical Manual, Swinburne Press.
HES1525  Chemistry 2

12.5 Credit Points  • 1 Semester  • 5 Hours per Week  • Hawthorn  • Prerequisite: Chemistry 1  • Teaching methods: Lectures, Tutorials, Practical Demonstrations  • Assessment: Texts 25%, Final Examination 50%, Practical Work 25%.

A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Business, Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Science (Biotechnology), Bachelor of Science (Biotechnology)/Bachelor of Arts (Media & Communications) and Bachelor of Science (Biotechnology)/Bachelor of Business, Bachelor of Applied Science (Psychology)/Biochemistry), Bachelor of Applied Science (Biochemistry/Chemistry).

Aims & Objectives

To build on the fundamentals of modern chemistry introduced in Chemistry 1 and to prepare students for later studies which require a basic fundamental understanding of chemical principles.

Content

Organic Chemistry:
• The nature of the chemical bond and the resultant shape of molecules.
• The role of molecular geometry in chemical reactions.
• Valence Bond Theory.
• A basic introduction to organic chemistry – the classes and structure of organic chemicals including the importance of functional groups.
• Nomenclature (naming of simple and complex organic molecules).
• An introduction to reaction mechanisms involving organic chemicals and including ways to categorise those reactions.
• A conductimetric study of the kinetics of an organic reaction.
• Basic techniques in organic chemistry, including testing for functional groups.

Analytical Chemistry:
• Quantitative analysis of chemicals using acid-base titrations, potentiometric and complexometric titrations and gravimetric analysis.
• How to obtain good precision in chemical analysis.

Physical and Polymer Chemistry:
• A general introduction to polymer – their chemical structure and physical properties.
• Polymer degradation studies and their fate in the environment.
• A general introduction to physical chemistry.
• Enthalphy and the first law of thermodynamics.
• An introduction to chemical kinetics.

References

Class Notes and Practical Manual.

HES1535  Polymer Science

12.5 Credit Points  • 1 Semester  • 5 Hours per Week  • Hawthorn  • Prerequisite: HES1500 Chemistry 1  • Teaching methods: Lectures, practical work, case studies, industrial visits and assignments  • Assessment: Practical work (10%), Assignments (20%), Case Study (20%) and Examination (50%).

Aims & Objectives

• To introduce a systematic study of polymers, their chemistry and applications.
• To further develop basic chemistry knowledge.
• To understand the importance and diversity of polymers in nature and industry.

Content

Chemistry of Polymer Groups:
• Fundamentals, recognition of functional groups and functionality.
• Free radical reactions.
• Bio- and synthetic polymers.

The Presence of Polymers:
• Description of the presence of polymers in art, automobiles, coatings, food packaging, medicine, dentistry, nature, the environment and the future.

Characterisation of Polymers:
• Molecular weights, practical studies, instrumentation.

Structure-property Relationships:
• Crystallinity, plasticity, Tg & Tm.
• Polymer Degradation and Recycling:
• Polymer pollution and its treatment.

References


HES1545  Food, Cosmetic and Emulsion Science

12.5 Credit Points  • 1 Semester  • 5 Hours per Week  • Hawthorn  • Prerequisite: HES1500 Chemistry 1  • Teaching methods: Lectures, practical work  • Assessment: Assignments (10%), Examinations (60%), Practical Reports (30%).

Aims & Objectives

To study food composition and preparation of processed foods. To study analytical techniques used in the food industry, and the use, purpose and function of permissible food additives. To examine natural hazards associated with food. To study the importance of emulsions in food preparation, cosmetics and related products.

Content

Food Composition:
• The components that make up food and the blending together of components to make processed foods, e.g. margarine, mayonnaise and ice-cream.
• Techniques used for the determination of carbohydrate, protein and liquid in foods.
• Determinants of the amount of Micronutrients in food.
• Methods used for determining the water content of foods.
• Determination of the calorie or joule content of foods.
• Other manual and instrumental techniques used in food analysis to determine compliance with the Food Standards Code.

Chemical Additives:
• Study the chemical additives used to improve the keeping quality, taste, appearance and palatability of foods. This will cover chemical classes of food additives, historical aspects, permitted compounds, reasons for use, function, advantages, disadvantages, breakdown pathways, toxicity testing, regulatory control.
• Classes of chemical additives to be considered will include the following: preservatives, antioxidants, flavouring compounds, sweetening agents, flavour enhancers, nutrients, emulsifiers.
• Natural hazards associated with food (MSG, Solanine, Mycotoxins, Seafood Toxicants and allergens).

Cosmetics and Pharmaceutical Products:
• Common ingredients in cosmetics and pharmaceutical products.
• Formulation of cosmetics. What are you paying for an expensive perfume?
• The role of emulsifiers in cosmetic and pharmaceutical products.

References

Food Standards Code.

HES1555  Consumer Science

12.5 Credit Points  • 1 Semester  • 5 Hours per Week  • Hawthorn  • Prerequisite: Chemistry 1  • Teaching methods: Lectures, tutorials, practical demonstrations  • Assessment: Assignment (30%), Final Examination (50%), Practical Work (20%) Assignments.

A subject in the Bachelor of Science (Biotechnology), Bachelor of Applied Science (Psychology/Biochemistry), Bachelor of Applied Science (Biochemistry/Chemistry).

Aims & Objectives

To illustrate the scientific basis behind the choice consumers have when obtaining common household products and to provide an understanding of the science involved in how those products work.

Content

Agricultural Products and Soil Chemistry:
• Chemical and “organic” fertilisers, their analysis, content, purpose and use.
• The N:P:K ratio in fertilisers.
• The structure of clay and sand and their distinction based on particle size.
• The role of Ca2+ in plant structure.
• The importance of nutrient adsorption onto soils for plant uptake. pH measurement and significance in soils.
• Pesticides and herbicides in the environment—an introduction.

Advertising and Misadvertising of Consumer Products:
• Misleading advertising in the supermarket.
• How to compare products.
• The mathematics involved in consumer choices.
• Choosing 'healthy' products on the basis of their chemical constituents, and the science behind those choices.

Cleansing Products:
• How do common surfactants work?
• What are the important ingredients in soap powder, pool chlorine etc., and what are their roles?
• Formulation of household cleaners.

Consumer Guide to Chemicals:
• What are the chemicals found in common materials and products?
• Food, beverage, medical, pharmaceutical, cosmetic and paper applications.
• The chemistry of swimming pools.

References

HES1610 Human Biology

12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, tutorials, practical demonstrations, extensive use of multimedia learning resources. Learning extension program via the Internet. Assessment: Tests (40%), Final examination (60%).

A subject in the Bachelor of Applied Science (Biochemistry/Chemistry), Bachelor of Applied Science (Psychology/Biochemistry), Bachelor of Health Science (Public and Environmental Health), Bachelor of Science (Biotechnology), Bachelor of Science (Biotechnology) / Bachelor of Business, Bachelor of Science (Biotechnology) / Bachelor of Arts (Media & Communications), Bachelor of Health Science (Public and Environmental Health), Bachelor of Applied Science (Psychology/Biochemistry), Bachelor of Applied Science (Biochemistry/Chemistry).

Aims & Objectives
To develop a solid working knowledge of fundamental cell biology processes and human physiology with application of this knowledge to everyday human concerns, ranging from disease processes through to topical bioethical issues.

Content
• The Scientific Process: developing and testing a hypothesis.
• The molecules of life, especially macromolecules and their structure and function.
• Eukaryotic and prokaryotic cells, features and organelles, membranes, transport.
• Cell division, the cell cycle and its control.
• The human life cycle, Cancer.
• Types of tissues and organ systems.
• Homeostasis and control mechanisms.
• Divisions of the nervous system, cell types, membrane potentials, action potentials, synapses, neurotransmitters, neural circuits.
• Spinal cord, reflexes and homeostasis.
• The Brain: structure and function of major components, protective layers.
• Sensation, autonomic nervous system and its role in homeostasis.
• The senses including vision and hearing.
• Environmental signals, types of hormones and mode of action, endocrine glands, examples of homeostatic mechanisms using hormones.
• Functions of blood, components, haemostasis, blood groups, the heart, conduction system, ECG, cardiac cycle, regulation of heart activity.
• Blood vessel types, capillary exchange, haemodynamics, regulation of blood pressure.
• Lymphatic system, non-specific defence mechanisms.
• Antigens and antibodies, roles of T and B cells in cell and antibody-mediated immunity, MHC and antigen processing, immunological memory, self recognition and tolerance, HIV infection.

HES1616 Concepts of Biotechnology

12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, tutorials, practical demonstrations, practical classes, extensive use of multimedia learning resources. Learning extension program via the Internet. Assessment: Tests (40%), Final Examination (60%).

A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Business, Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Science (Biotechnology) / Bachelor of Business, Bachelor of Science (Biotechnology) / Bachelor of Arts (Media & Communications), Bachelor of Health Science (Public and Environmental Health), Bachelor of Applied Science (Psychology/Biochemistry), Bachelor of Applied Science (Biochemistry/Chemistry).

Aims & Objectives
• To understand the basic principles of metabolic processes within the cell and how these processes can be harnessed for biotechnology.
• To develop an understanding of the central role of DNA in the flow of genetic information in the cell, how it influences the phenotypic and genotypic characteristics of the organism and ultimately how DNA can be manipulated for useful applications.
• To promote an informed awareness of current biotechnical issues surrounding genetics and encourage critical thinking about the issues.

Content
• Overview of energy transformations within the cell, role of enzymes and their action, the fate of metabolites.
• Application to biotechnology processes.
• Micro-organisms: overview of types, growth and handling and their use in biotechnology.
• Review of cell division processes, the flow of genetic information.
• Chromosomes, Genes, DNA and its structure.
• Central dogma of molecular biology, processes of replication, transcription and translation, post-translational processing of proteins.
• Principles of genetic engineering, techniques including, creating recombinant DNA molecules, screening libraries, blotting techniques, PCR and DNA sequencing.
• The Human Genome Project and the post-project era, examples of applications in biotechnology.
• Mendelian genetics, traits, types of crosses, gene pools, Hardy-Weinberg Law. Cytogenetics, karyotypes, mutations and gene defects. Inborn errors of metabolism.
• Genetic issues including genetic determinism and eugenics, gene therapy, GM foods and GMO’s, patenting of life.
• Relevant practical exercises.

References

HES1700 Environmental Health Management 1

12.5 Credit Points • 1 Semester • 48 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Group and Individual Exercises • Assessment: Assignments, Tests.

A subject in the Bachelor of Health Science (Public and Environmental Health).
Aims & Objectives

- To introduce the student to the basic principles of communication, negotiation and conflict resolution skills appropriate to the needs of the environmental health professional.
- To examine the major approaches to social policy and Australian health policy development.
- To review the history of public health in Victoria and the impacts of environmental health.
- To understand the professional role of the environmental health officer in government and industrial settings.
- To study the administrative structure of local and state environmental health and environmental protection agencies, and the application of legislative and policy initiatives available to them.

Content

- Introduction to verbal and non-verbal communication skills, active listening, recognising conflict situations, methods of interpersonal conflict resolution, assertiveness skills, interpersonal negotiation skills, and stress management.
- Group and individual exercises will allow students to put these principles into practice to develop skills that will be of practical use in the workplace and community environments.
- A review of major theoretical and ideological approaches to social policy, and introduction to key policy issues, such as problem identification, policy implementation, evaluation and monitoring, and an introduction to Australian health policy.
- The history of public health in Victoria and the impact of environmental health on the prevention of spread of disease.
- The professional role and practice of the environmental health officer in government and industry, career opportunities and development.
- Concepts of environmental health.
- The administrative structure and role of state and local government agencies involved in environmental health and environment protection.
- An overview of appropriate legislation, policies and codes.

References


HES1715 Environmental Measurement

12.5 Credit Points  •  1 Semester  •  6 Hours per Week  •  Hawthorn  •  Prerequisite: Nil
Teaching methods: Lectures, Demonstrations, Computer Laboratory Practicals.
Assessment: Assignments, Examinations.
A subject in the Bachelor of Health Science (Public and Environmental Health).

Aims & Objectives

- Develop an appreciation of personal computer applications and software relevant to environmental health management.
- Provide an introduction to computer programming using Qbasic.
- Introduce measurement concepts and their application to the effective use of relevant mechanical, electrical and scientific instrumentation.
- Provide an understanding of radiation technology and hazard assessment.
- Apply various relevant computer software packages including MS-DOS, MS-Word and MS-Excel.
- Show an understanding of computer programming using Qbasic as the model.
- Describe concepts of mechanical and electrical technology.
- Demonstrate an understanding of measurement technology, particularly its application to scientific instrumentation used in the monitoring of the physical environment.
- Understand concepts of ionising radiation technology and bio-hazards.

Content

- Computer hardware, peripheral devices, CPU, Operating systems, DOS, Windows.
- Application packages such as word processors, spreadsheets, databases etc.
- Data acquisition from instruments, incorporation into Excel, use of Excel for simulation.
- Principles of scientific instrumentation.
- Electrical technology.
- Mechanical and electrical devices with applications.
- Radiation sources: materials and detection.
- Acoustics.

References


HES1900 General Flying Progress Theory

12.5 Credit Points  •  1 Semester  •  6 Hours per Week  •  Hawthorn  •  Prerequisite: Nil
Teaching methods: Classroom  •  Assessment: Examination 80%, Assessed work 40%.
In addition Bachelor of Technology (Aviation) candidates must achieve satisfactory progress in their flying training towards the CASA GFPT to receive a pass in this subject.
A subject in the Bachelor of Technology (Aviation) and Bachelor of Technology (Aviation)/Bachelor of Business.

Aims & Objectives

To provide the student with a basic understanding of flight planning, procedures, navigation theory, general meteorology, aircraft general knowledge and human performance and limitations sufficient to enable practical flying training to the General Flying Progress Test.

Content

Basic Flight Planning to GFPT.
- Purpose, use and value of the Flight Manual.
- Take off and landing performance, aircraft weight and loading restrictions.
- Pressure height, density height, limitations, airworthiness and aircraft equipment.
Basic Procedures:
- Privileges and limitations.
- Aviation documents and pilot licences.
- Flight rules and conditions of flight.
- Air service operations.
- Aerodromes and local airspace.
- Emergencies and SAR.
- Aircraft equipment and carriage of passengers.
- Radio equipment, performance, propagation, practical operation, procedural words and phrases, emergencies and use of transponder, air traffic procedures.

Basic Navigation Theory:
- Charts and publications, reading maps, symbols.

General Meteorology:
- Standard atmosphere, adiabatic law, lapse rates, weather services, forecasts, climatology and local weather.

Basic Aircraft General Knowledge:
- Terminology, direction, time, vertical measurement and other units.
- Power plants and systems, fuels and oils.
- Engine handling, malfunctions, engine icing and flight instruments.
- Basic aerodynamics theory, lift and drag, flight controls, straight and level flight, climbing, descending, turning, taxi, take off and landing, wake turbulence and thrust stream turbulence.

Human Performance and Limitations:
- Basic health, health and fitness.
- Hyperventilation.
- Atmospheric pressure changes.
- Basic knowledge of the anatomy of the ear.
- Vision, spatial disorientation, illusions.
- Motion sickness.
- Acceleration “g” effects.
- Toxic hazards.
- The atmosphere and associated problems.
• Hypoxia and human factors considerations.

Textbooks
Thom, T., Flight Rules and Air Law, Series 4, Aviation Theory Centre.
Thom, T., Meteorology and Navigation, Series 2, Aviation Theory Centre.
Thom, T., Aircraft General Knowledge and Aerodynamics, Series 1, Aviation Theory Centre.

References
Civil Aviation Safety Authority, VFR Day Syllabus, as amended from time to time.
Civil Aviation Safety Authority, Civil Aviation Orders, Regulations, Amendments.
Civil Aviation Safety Authority, Aeronautical Information Publication.
Civil Aviation Safety Authority, Operational Notes (CASA), ND8, VOR and DME.

HES1905 Commercial Pilot Licence 1

12.5 Credit Points • 1 Semester • 72 Hours • Hawthorn • Prerequisite: HES1900 • Teaching methods: Classroom  Assessment: Examination 60%, Assessed work 40%.
In addition candidates must achieve satisfactory progress in their flying training towards the CASA PPL to receive a pass in this subject.
A subject in the Bachelor of Technology (Aviation) and Bachelor of Technology (Aviation)/Bachelor of Business.

Aims & Objectives
To consolidate the theory taught at GFPT and to further develop the additional knowledge necessary for the student to undertake practical cross country flying training.

Content
Advanced Flight Planning 1:
• Use of ERSA.
• Aerodromes and Authorised Landing Areas.
• Density height, take off and landing performance, climb, cruise and descent performance.
• Loading.
• Flight plan preparation, flight planning, equi-time point and point of no return.
• Airworthiness and equipment.
Advanced Procedures 1:
• Documentation.
• Pilot licences, privileges and limitations.
• Rules and conditions of flight.
• Air Service Operations.
• Aerodromes.
• Airspace and traffic services.
• Emergencies, accidents and incidents.
• Security.
• Radio telephony.
Navigation Theory 1:
• Form of the earth.
• Time.
• Charts and Publications.
• Computations, navigation and radio navigation aids.
Aviation Meteorology 1:
• Composition of the atmosphere.
• Heat, temperature, pressure and humidity.
• Atmospheric stability.
• Clouds and Precipitation.
• Visibility.
• Winds, air masses and fronts.
• Flight considerations.
• Synoptic Meteorology.
• Weather Services.
• Climatology.

Advanced Aircraft General Knowledge 1:
• Engines, propellers, power plants, systems and instruments.
• Advanced aerodynamics.
• Human performance and Limitations 1:
• Basic health, health and fitness.
• Hyperventilation.
• Atmospheric pressure changes.
• Basic knowledge of the anatomy of the ear.
• Vision, spatial disorientation, illusions.
• Motion sickness, acceleration ‘g’ effects.
• Toxic hazards.
• The atmosphere and associated problems.
• Hypoxia and human factors.

Textbooks
Thom, T., Flight Rules and Air Law, Series 4, Aviation Theory Centre.
Thom, T., Meteorology and Navigation, Series 2, Aviation Theory Centre.
Thom, T., Aircraft General Knowledge and Aerodynamics, Series 1, Aviation Theory Centre.

References
Civil Aviation Safety Authority, VFR Day Syllabus, as amended from time to time.
Civil Aviation Safety Authority, Civil Aviation Orders, Amendments.
Civil Aviation Safety Authority, Aeronautical Information Publication.
Civil Aviation Safety Authority, Operational Notes (CASA), ND8, VOR and DME.

HES1910 Human Factors, Communication Skills and Leadership

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures 8 Hours, Assignments/Tutorials 24 Hours. Note: A one hour lecture and two hour laboratory will be conducted by the School of Information Technology on data base concepts and application of ‘Access’. Assessment: Examination 50%, Assignments 35%, Presentations 15%, Participation 10%.
A subject in the Bachelor of Technology (Aviation), Bachelor of Technology (Air Transportation Management), Bachelor of Technology (Aviation)/Bachelor of Business, and Bachelor of Technology (Air Transportation Management)/Bachelor of Business.

Aims & Objectives
To develop written, oral and presentation skills.

Content
Structure and Organisation Operation:
• Types of meetings, chairing meetings, conduct of meetings, roles and responsibilities, organisational cultures, multi-cultural environments.
Interpersonal Skills:
• Types of behaviour, teamwork and group strategies, peer learning (learning communities).
• Types of presentation, conflict resolution, oral and written reporting, study skills, role-playing.
• Introduction to the concept of Crew Resource Management (CRM).
Organisational Skills:
• Filing, correspondence, product control.
• Program Evaluation Review Technique (PERT).
• Referencing documents.
Information Technology:
• Role of information technology, use of computers.
• Word processing, Internet, Microsoft, PowerPoint, Access. Excel is covered in Mathematics.

References
Covey, S., The Seven Habits of Highly Effective People, Melbourne Business Library, 1989.
**HES1915  Occupational Health and Safety**

12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Classroom • Assessment: Examinations 40%, Assessed work 60%.

A subject in the Bachelor of Technology (Aviation) and Bachelor of Technology (Air Transportation Management). A subject in the Bachelor of Technology (Aviation) and Bachelor of Technology (Air Transportation Management).

**Aims & Objectives**

To acquaint students with the occupational health and safety requirements of modern aviation. The subject includes a CASA approved Dangerous Goods course and an extensive treatment of Aviation Medicine.

**Content**

**Occupational Safety:**
- Safety hazards and safety systems.
- Noise and vibration, theory, measurement, analysis and control.
- Fire, combustion theory, types of fires and extinguishers, fire fighting techniques, evacuation, protection from fire and smoke.

CASA approved Dangerous Goods Course:
- The requirements of the Civil Aviation Act and Civil Aviation Regulation as relating to the carriage of dangerous goods.
- Definitions contained in the Technical Instructions relating to dangerous goods, units of measure and conversion factors.
- Items specified as dangerous goods in the Dangerous Goods List.
- Technical Instructions, items likely to be, or to contain dangerous goods. The classification of dangerous goods.
- Instructions for the carriage of excepted and limited quantities of dangerous goods.
- The responsibilities of an operator and shipper as outlined in the Technical Instructions, for packing, marking and labeling of dangerous goods.
- Procedures to be followed by an operator if a dangerous goods incident occurs, including reporting procedures.
- Separation of dangerous goods from other dangerous goods or cargo.
- Documents relating to the carriage of dangerous goods, including notification to pilot.
- Instructions in an operator’s dangerous goods manual for the handling of dangerous goods consigned for carriage on the operator’s aircraft.

**Aviation Medicine:**
- Aviation Medicine, human responses to altitude change, atmosphere, acceleration, noise, workloads.
- Vision, balance, spatial disorientation, allusions, hypoxia, hyperventilation, physiology and pathology of the human ear, audiometry, hearing loss protection, respiration, air sickness, fatigue, memory, motor control.
- Health, drugs, pilot fitness.
- Survival skills, basic procedures, first aid, thirst, hunger, protection from the elements, early recovery, survival equipment.
- Features of land and sea survival.

**Textbooks**


**References**

Anon, Dangerous Goods and Regulations, IATA.
DLO, Manual Handling: Regulations and Code of Practice, Department of Labour, Melbourne, 1988 (Note that this regulation is now published by the Workcover Authority, Victoria).


**HES1920  General Flying Progress Theory**

12.5 Credit Points • 1 Semester • 6 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Classroom • Assessment: Examination 80%, Assessed work 20%.

A subject in the Bachelor of Technology (Aviation) and Bachelor of Technology (Air Transportation Management) and Bachelor of Technology (Air Transportation Management).

**Aims & Objectives**

To provide the student with a basic understanding of flight planning, procedures, navigation theory, general meteorology, aircraft general knowledge and human performance and limitations sufficient to enable practical flying training to the General Flying Progress Test.

**Content**

Basic Flight Planning to GFPT:
- Purpose, use and value of the Flight Manual.
- Take off and landing performance, Aircraft weight and loading restrictions.
- Pressure height, density height, limitations, airworthiness and aircraft equipment.

Basic Procedures:
- Privileges and limitations.
- Aviation documents and pilot licences.
- Flight rules and conditions of flight.
- Air service operations, aerodromes, local airspace.
- Emergencies and SAR.
- Aircraft equipment and carriage of passengers.
- Radio equipment, performance, propagation and practical operation.
- Procedural words and phrases.
- Emergencies and use of transponder.
- Air traffic procedures.

Basic Navigation Theory:
- Charts and publications, reading maps, symbols.

General Meteorology:
- Standard atmosphere, adiabatic law, lapse rates, weather services, forecasts, climatology and local weather.

Basic Aircraft General Knowledge:
- Terminology, direction, time, vertical measurement and other units.
- Power plants and systems, fuels and oils, engine handling, malfunctions, engine icing and flight instruments.
- Basic aerodynamics theory, lift and drag, flight controls, straight and level flight, climbing, descending, turning, taxi, take off and landing, wake turbulence and thrust stream turbulence.

**Human Performance and Limitations:**

- Basic health, health and fitness.
- Hyperventilation.
- Atmospheric pressure changes.
- Basic knowledge of the anatomy of the ear.
- Vision, spatial disorientation, illusions.
- Motion sickness.
- Acceleration “g” effects.
- Toxic hazards.
- The atmosphere and associated problems.
- Hypoxia and human factors considerations.

**Textbooks**

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Thom, T., Flight Rules and Air Law, Series 4, Aviation Theory Centre.

Thom, T., Meteorology and Navigation, Series 2, Aviation Theory Centre.

Thom, T., Aircraft General Knowledge and Aerodynamics, Series 1, Aviation Theory Centre.

References

Civil Aviation Safety Authority, VFR Day Syllabus, as amended from time to time.
Civil Aviation Safety Authority, Civil Aviation Orders, Regulations, Amendments.
Department of Science and Technology (Bureau of Meteorology), Manual of Meteorology.
Civil Aviation Safety Authority, Aeronautical Information Publication.
Civil Aviation Safety Authority, Operational Notes (CASEA), NOE, VOR and DME.

HES1935 Internal Combustion and Gas Turbine Engines

12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HET124 • Teaching methods: Classroom • Assessment: Examination 60%, Assessed work 40%.
A subject in the Bachelor of Technology (Aviation), Bachelor of Technology (Air Transportation Management), Bachelor of Technology (Aviation)/Bachelor of Business and Bachelor of Technology (Air Transportation Management)/Bachelor of Business.

Aims & Objectives

To provide students with a thorough understanding of energy systems, heat transfer and thermodynamic applications to Internal Combustion engines. An advanced understanding of the theory and operation of gas turbine engines is also addressed.

Content

- Basic engineering units and unit conversions.
- Heat transfer processes, basic heat exchanger design.
- Review of first law of thermodynamics, energy and work transfers, energy equation.
- Gas processes and cycles, applications to internal combustion engines.
- Aircraft IC Engine construction and performance characteristics.
- Basic Gas Turbine theory.
- Characteristics of gas turbine engines and basic thermodynamic analysis.
- Compressor and turbine blade design, turbine cooling.
- Gas turbine combustion elements and requirements.
- Subsonic intakes.
- Thrust reversers.
- Thrust augmentation.

References

Kerrebrock, J.L., Aircraft Engines and Gas Turbines, MIT.

HES1945 Aircraft Electrics and Avionics

12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: NIL • Teaching methods: Lectures 36 hours, Assignment/ tutorials 12 hours. • Assessment: Examination 70%, Assignments 30%, Presentations 10%.
A subject in the Bachelor of Technology (Aviation), Bachelor of Technology (Air Transportation Management), Bachelor of Technology (Aviation)/Bachelor of Business, and Bachelor of Technology (Air Transportation Management)/Bachelor of Business.

Aims & Objectives

To provide an overall knowledge and understanding of aircraft electrical and electronic systems and equipment, including installations and related electrical protection, flight and engine instrumentation, navigation and control systems, including automatic pilots and automatic landing operations and electrical power generation, including control and supply. Successful completion of this subject should enhance discussion with relevant aviation specialists relating to aircraft operations.

Content

- Aircraft electrical and electronic systems - an overview.
- Voltage, current, resistance, power, Ohm's Law, Kirchhoff's Law.
- Alternating and direct current circuit analysis.
- Batteries (aircraft) - lead-acid, nickel-cadmium, nickel-iron.
- Magnetic circuits, flux density, field strength, permeability, hysteresis.
- Electric motors and generators (aircraft) ac/dc, single and three phase.
- Transformers, rectification, transducers.
- Electronic theory, semi-conductors, thyristors, JFETs, MOSFETs, zener diodes.
- Analogue and digital electronics, binary numbers, and/or/not nor circuits.
- Aircraft electronic devices, systems and equipment.
- Electrical wiring and installations, electrical distribution, control and protection.
- Fire protection systems.
- Flight instruments - ASI, altimeters, gyrosopes, AH, DG, VG, central computers.
- Avionic systems and equipment - general/specific.
- Control systems - open/closed loop, stability, methods of assessment, s-plane.
- Automatic pilots, automatic landing systems - failure probability assessment.
- Navigation - ADF, VOR, FDS, DME, ILS, GPS, TACAN, ADS, FMS, INS.
- Instruments (other) - temperature, RPM, fuel contents, fuel flow.

Textbook


HES2100 Civil Engineering Practice

12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HES1125, HET1000 & HET1005 • Teaching methods: Lectures 24 Hours, Tutorials 24 Hours, Site visits/inspections 12 Hours. • Assessment: Assignments, Examinations.
A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Arts and Bachelor of Engineering (Civil)/Bachelor of Business.

Aims & Objectives

- To introduce students to Civil Engineering practice.
- To develop an appreciation of the nature of civil engineering projects, the engineering workplace and their importance to society.
- To develop teamwork skills through group work.
- To develop appreciation of the engineering practice in the urban environment including civil and structural systems.

To develop understanding of need for sustainable use and environmental control in engineering work.

Content

Introduction to Civil Engineering practice (10%).
- Engineering workplace relationships and communications and the introduction to project stages, including site assessment, planning, design, construction and operation/maintenance, will be explored through case studies.
- Management of teamwork, report writing, communication with the community.
- Civil engineering and society (15%).
- Impact of Civil Engineering practice on society.
- Case studies of successful innovation and engineering failures.
- Causes, liability and responsibility.

Engineering systems in the urban environment (75%).
- Water systems/catchment management.
- Function: community attitudes, impact on quality of life and the environment.
- Impact of engineering activity on the environment - environmental systems.

- Structural systems - basic principles of structural systems. Building terminology & techniques.
• Applications - analysis of real-life issues through site inspections and group projects, simple design tasks.

References
To be advised.

HES2115 Road Data, Design & Environment
12.5 Credit Points • 1 Semester • 72 Hours • Hawthorn • Prerequisite: HES2130 • Teaching methods: Lectures 30 Hours, Tutorials 12 Hours, Field and Laboratory Work 30 Hours. • Assessment: Assignments, Examinations, Pracs.
A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Arts and Bachelor of Engineering (Civil)/Bachelor of Business.

Aims & Objectives
To develop an understanding of the principles and practice of geometric road design and set out including field data collection and analysis.

Content
Use of land physical survey data in road design and set-out (50%):
• Detail road surveying.
• Set out computations and practice.
• Software to produce computerised road plans.
• Introduction to Geographical Information.

Geometric design of roads (50%):
• Terminology and design of road cross sections.
• Basic principles of road design and computer-aided road design.
• Theory, co-ordination and computations related to horizontal and vertical elements in road design (horizontal and transition curves, vertical curves).
• Cut and fill balance.
• Applications in design project.
• Areas, volumes, cadastral surveying, issues in road location and coordination.

References
Swinburne School of Civil Engineering & Building, CE246 Survey and Road Engineering (tutorials and practical notes), Swinburne University Press, 1998.

HES2120 Structural Mechanics
12.5 Credit Points • 1 Semester • 80 Hours • Hawthorn • Prerequisite: HES1125 • Teaching methods: Lectures 36 Hours, Tutorials 20 Hours, Laboratory Work 4 Hours. • Assessment: Assignments, Examinations.
Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Arts, Bachelor of Engineering (Civil)/Bachelor of Business, Bachelor of Engineering (Mechanical), Bachelor of Engineering (Mechanical)/Bachelor of Arts, Bachelor of Engineering (Mechanical)/Bachelor of Business, Bachelor of Engineering (Product Design), Bachelor of Engineering (Robotics & Mechatronics) and Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Applied Science (Computer Science & Software Engineering).

Aims & Objectives
• To develop an understanding of structural and material behaviour.
• To develop skills in analysis of statically determinate and indeterminate structures.
• To introduce the use of computer packages in the analysis of structural systems.

Content
Structural behaviour (8%):
• Modelling of structures, equilibrium, statical and kinematic determinacy, stability of structural form.
• Loads on structures, load paths.
Section properties (17%):
• Centroids, second moment of area, section modulus, principal axes.
Stress and strain (17%):
• Distributions in beams, elastic and plastic behaviour plastic section modulus.
Failure theories: maximum shear stress (Tresca) maximum principal stress (Rankine) and maximum shear strain energy (Von Mises).
Principal stresses, Mohr’s circle.
Behaviour of composite structures.
Structural theories (17%):
• Concept of work, conservation of energy, principle of virtual work, energy methods and moment area methods.
Statically determinate structures (17%):
• Analysis for reactions, shear force, bending moment and axial force diagrams for beams and frames, analysis of trusses.
• Deflection of beams.
Statically indeterminate structures (17%):
• Development of the slope deflection equations and introduction to matrix analysis of beams.
• Moment distribution method for continuous beams.
Computer analysis (8%):
• Use of computer packages for the analysis of skeletal structures.
• Approximate analysis of structures, checking computer analysis.

References

HES2130 Engineering Surveying
12.5 Credit Points • 1 Semester • 80 Hours • Hawthorn • Prerequisite: HMS112 • Teaching methods: Lectures 12 Hours, Tutorials 12 Hours, Field, Laboratory Work 36 Hours • Assessment: Assignments, Examinations, Pracs.
A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Arts and Bachelor of Engineering (Civil)/Bachelor of Business.

Aims & Objectives
To develop a basic knowledge of Land Surveying theory and practice related to Civil Engineering.

Content
Surveying theory (40%):
• Distance measurement including principles and use of electronic distance measurers.
• Levelling.
• Construction.
• Use and adjustment of level types.
• Booking and level reductions.
• Contour properties and use of contour plans.
• Theodolites including construction, use, traversing and angle reading methods.
• Introduction to G.I.S and Cadastral surveying.
Computations (20%):
• Trigonometry.
• Levelling reductions.
• Traverse reductions.
• Areas.
• Volumes.
Survey practice (40%):
• Principles and types of surveys.
• Detail plan surveys.
• Use of surveying instruments and software to produce computerised plans.

References
Swinburne School of Civil Engineering and Building, ES2130 Survey and Road Engineering (tutorials and practical notes), Swinburne University Press, 1999.

HES2146 Computer Aided Engineering
12.5 Credit Points • 1 Semester • 72 Hours • Hawthorn • Prerequisite: Successful completion of 1st year studies. • Teaching methods: Lectures, Computer Laboratory • Assessment: Assignments, Participation, Tests.
A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Business, Bachelor of Engineering (Civil)/Bachelor of Arts, Bachelor of Engineering (Mechanical), Bachelor of Engineering (Mechanical)/Bachelor of Business, Bachelor of Engineering (Mechanical)/Bachelor of Arts.

Aims & Objectives
To develop the ability to prepare engineering drawings using a CAD system. To develop abilities in the use of computer software in solving engineering problems and documenting the result.

Content
CAD (50%):
- Introduction to CAD, the screen, menus, toolbars, commands, drawing elements, editing, filing, printing.
- Preparation of simple engineering drawings to industry standard.

Computer Application (50%):
- This component aims to develop those computer skills relevant to the specific degree program undertaken.

Textbooks
(subject to course undertaken):
Ramakers, H., AutoCAD Skills 1, Swinburne Press.

References

HES2155 Geomechanics
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HES1125, HES2120 • Teaching methods: Lectures 36 Hours, Tutorials 24 Hours • Assessment: Assignments and Examination.

A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Arts and Bachelor of Engineering (Civil)/Bachelor of Business.

Aims & Objectives
To enable students to:
- Recognise basic geology, geological principles and their influence on civil engineering projects.
- Construct simple geological cross sections.
- Identify and classify rock and soil specimens.
- Conduct a basic site investigation.
- Understand basic engineering properties of soils, effective stress law, shear strength of soils, settlement and consolidation principles.

Content
Introduction to geology (30%)
- Formation of rocks and soils.
- Tectonic plate movements.
- Identification of rock types.
- Elements of structural geology.
- Measurement of dip angle and direction, strike.
- Geological mapping.
- Geology of Melbourne and Victoria.

Physical and engineering properties of soils (20%):
- Soil structure.
- Weight and volume relationships.
- Identification and classification of soils.
- Mechanical analysis.
- Consistency of soil.

Geostatic stresses (10%)
- Geostatic stresses (total and effective stresses) and calculation of stresses under loaded areas.

Shear strength of soils (20%):
- Normal and shear stresses on inclined plane.
- Pole method.
- Mohr-Coulomb failure criteria.
Aims & Objectives
- To develop a basic understanding of the role of manufacturing technology in industry.
- To develop a basic understanding of thermodynamics.
- To develop a foundation of analytical capability for the solution of engineering machine dynamics problems.
- To provide a general understanding of design of components and tools in manufacturing industries.
- To provide a theoretical and analytical foundation for the study of Machine Dynamics in the Advanced Stage of the mechanical engineering course.
- To develop a basic understanding of thermodynamics.

Textbook

References

HES2330 Thermodynamics 1
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HET124, HMS112 • Teaching methods: Lectures 36 Hours, Laboratories 24 Hours. • Assessment: Examinations, Tests.
A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Applied Science (Computer Science & Software Engineering).

Aims & Objectives
- To develop a basic understanding of thermodynamics.

Textbook

References
To develop an appreciation of the design principles in thermo-fluid systems.

To develop the ability to analyse existing thermo-fluid systems and contribute to new designs.

Content
First Law of Thermodynamics (8%):
- Heat, work system, units.
- State of a working fluid, reversibility, conservation of energy.
- The non-flow equation, steady-flow equation.

The Working Fluid (8%):
- Liquid, vapour, gas, vapour tables, perfect gasses.
- Reversible and Irreversible Processes (8%):
  - Reversible non-flow processes, reversible adiabatic non-flow processes.
  - Polytropic processes.
  - Reversible steady-flow processes, irreversible processes.

The Second Law (8%):
- The heat engine, entropy.
- The T-s diagram, processes on the T-s diagram, entropy and irreversibility, exergy.

The Heat Engine (8%):
- The Carnot cycle.
- The constant pressure cycle.
- The air standard cycle.
- The Diesel cycle.
- Mean effective pressure.

Steam Cycles (16%):
- The Rankine cycle, superheat, the enthalpy-entropy chart.
- Reheat, regeneration, plant efficiency.

Gas Turbine Cycles (16%):
- The gas turbine cycle, intercooling, reheating, heat regenerating.

Positive Displacement Machines (8%):
- Reciprocating compressors.
- Clearance.
- Multi-stage compression.
- Steady-flow analysis.
- Rotary machines.
- Vacuum pumps, air motors.

Reciprocating Internal Combustion Engines (8%):
- Four stroke, two stroke, other types.
- Performance and efficiency.
- Fuel systems and supercharging.
- Emissions and legal requirements.

Refrigeration and Heat Pumps (8%):
- Reversed heat engine cycles.
- Vapour compression cycles.
- Refrigerating load.
- The pressure-enthalpy diagram.

NCET2340 Fluid Mechanics 1
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HET124; HMS112 • Teaching methods: Lectures 38 Hours, Laboratory, Tutorials 24 Hours • Assessment: Examinations, Labo, Tutorials.

A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Business, Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Arts, Bachelor of Engineering (Civil)/Bachelor of Business, Bachelor of Engineering (Mechanical), Bachelor of Engineering (Mechanical)/Bachelor of Arts and Bachelor of Engineering (Mechanical)/Bachelor of Business.

Aims & Objectives
- To develop the fundamentals of fluid mechanics.
- To develop an appreciation of the design principles in fluid systems.
- To develop the ability to analyse existing fluid systems and contribute to new designs.

Content
Fluid Properties (8%):
- Density, specific weight and specific gravity.
- Enthalpy, viscosity and heat capacity.
- Internal energy, elasticity and vapour pressure.

Fluid Statics (8%):
- Static pressure, dynamic pressure, total pressure, gauge pressure.
- Absolute pressure, pressure heights, manometry.

Fluids in Motion (8%):
- Lagrangian and Eulerian viewpoints.
- Streamlines, uniform and non-uniform flow.
- Steady and unsteady flow.
- 1-D, 2-D and 3-D flows.
- Flow rate and continuity.
- Flow acceleration.
- Continuity equation, rotation and vorticity.
- Separation, vortices and turbulence.

Pressure Variation in Flowing Fluids (8%):
- Variations due to weight and acceleration.
- Euler’s equation, Bernoulli’s equation.
- Separation and its effect on pressure variation.
- Cavitation, applications.
- Hydraulic and energy grade lines.

Momentum Principle (8%):
- Momentum equation, application of the momentum equation.
- Forces on nozzles and bends.
- Moment of momentum.
- Introduction to the Navier-Stokes equations.

Flow Measurement (8%):
- Orifice, anemometers, venturi meters, weirs.

Dimensional Analysis & Similitude (8%):
- Dimensions in equations.
- Buckingham Pi theorem.
- Common dimensionless numbers.
- Similitude and model analysis.
- Pressure coefficient.

Flow in Conduits (16%):
- Shear stress distribution across a pipe section.
- Laminar & turbulent flow in pipes.
- Criteria for laminar and turbulent flow.
- Resistance, Moody diagram.
- Empirical relationships.
- Primary and secondary losses.
- Pipe systems, pipe networks.
- Non-circular conduits.

Channel flow (16%):
- Uniform flow, specific energy.
• Froude number, hydraulic jump.
• Gradually-varied flow.
Turbomachinery Basics (8%).
• Axial flow pumps, radial flow pumps, compressors, specific speed.
• Suction limitations of pumps.
• Pump performance and selection.

Textbook

References

HES2510 Investigative Chemistry Prac 1
12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: HES1515 HES1505 • Teaching methods: Laboratory classes. Each of the five experiments contributes equally to the final mark in the subject. • Assessment: Reports (50%) Demonstrator assessment (30%) Laboratory test (12%) and Written test (8%).
A subject in the Bachelor of Applied Science (Biochemistry/Chemistry), Bachelor of Science (Biotechnology) and Bachelor of Engineering/Bachelor of Science (Biotechnology).
Aims & Objectives
• To build upon the first year practical chemistry base.
• To extend investigative skills and elevate wet bench analytical techniques to a high level.
• To learn to use analytical instrumentation.
• To prepare for industry-based learning.

Content
Laboratory practical experiments in quantitative analysis using volumetric titration, UV-visible spectrophotometry, atomic absorption spectroscopy, gas chromatography and high performance liquid chromatography.

References
Bowater, I.C., Atomic and Molecular Spectroscopy, (printed notes), Swinburne Press.
Cross, R.F., Chromatography, (printed notes), Swinburne Press.

HES2515 Investigative Chemistry Prac 2
12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: HES1515 • Teaching methods: Laboratory class and lectures/training in professional skills. • Assessment: Reports 50%, Demonstrator Assessment 30%, Written Test 8%, Laboratory test 12%.
A subject in the Bachelor of Applied Science (Biochemistry/Chemistry), Bachelor of Science (Biotechnology).

Aims & Objectives
• To build upon the first year practical chemistry base.
• To extend investigative skills, techniques in basic organic chemistry and the safe handling of hazardous materials.
• To learn to use appropriate laboratory equipment and instruments.
• To prepare for industry-based learning.

Content
Experiments will be performed using organic chemicals which expose students to the following techniques:
• Extraction, Distillation, Purification, Instrumental analysis.
• Macroscale and microscale synthesis.
• Chromatography and Identification of unknown substances.
Industry-Based Learning (IBL) Orientation:
• Preparation of a written technical report in a specified journal format and a full resume for IBL employers.
• Orientation to Occupational Health and Safety (OH&S) legislation and issues.
• Talks on Intellectual Property and Patents and quality issues (TQM, GLP, GMP).

References

HES2520 Chemistry 3
12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: HES2525 Chemistry 1 • Teaching methods: Lectures, Practical work and assignments • Assessment: Each topic is worth 20% and all topics will have an examination. Some topics may also include a contribution from an assignment/laboratory work. One or two topics will be examined during the semester.
A subject in the Bachelor of Science (Biotechnology), Bachelor of Engineering/Bachelor of Science (Biotechnology) and Bachelor of Applied Science (Biochemistry/Chemistry).

Aims & Objectives
• To develop an understanding of the principles of phase equilibria and their application to common methods of purification.
• To further develop basic organic chemistry knowledge.
• To interpret inorganic principles for main group and transition metal elements and compounds.
• To quantitatively interpret chemical information presented in a spreadsheet and on a graph.
• To extend students' knowledge of thermodynamics to a mature view.

Content
Thermodynamics:
• Revision of enthalpy.
• Heat capacity and the Kinchhoff equation.
• The second law of thermodynamics.
• Entropy, free energy and spontaneity.
• Projection of spontaneity predictions to alternative temperatures.
• Calculation of equilibrium constants from tabulated data.
• Chemical potentials.
• Available work.

Phase Equilibria:
• Chemical potentials, spontaneous diffusion and stable phases.
• The Gibb’s Phase Rule, the lever rule.
• One and two component phase diagrams.
• Fractional and steam distillation.
• Solvent ex-traction, melting point test for purity.
• Fractional crystallisation and zone refining.

Organic Chemistry:
• Acidity and basicity.
• Strength of acids and bases.
• Keto-enol tautomerism.
• Carbamions.
• Carbonyl-substitution and condensation reactions.
• Wittig reaction.
• Applications to synthesis.

Inorganic Chemistry:
• Periodic trends in atomic properties.
• Bonding, structure, and physical properties.
• Thermodynamic and kinetic principles.
• Thermochemical cycles.
• Acid-base and redox data.

Computers in Chemistry:
• Common personal computer software packages, concentrating on Excel.
• Applications involving the simulation of chromatographic resolution and kinetics using Excel.

References
Organic Chemistry textbook (latest edition of McMurry or Morrison and Boyd).

HES2530 Chemicals in the Environment
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: HES1505, HES1515 • Teaching methods: Lectures 2 Hours per Week, Laboratory class 2

References
Organic Chemistry textbook (latest edition of McMurry or Morrison and Boyd).
Extraction of Metals and Recycling:
E.J. Slowinski, W. Masterton, Qualitative Analysis and the Properties of Ions in Aqueous
pH adjustment, and complex ion formation covered in earlier topics.

Identification of Inorganic Pollutants:
- Turbidity.
- Chromium, and the evaluation of a portable test kit for 3 tests, nitrate, manganese and
while extending analytical chemistry skills. Analysis of dissolved oxygen, phosphate and

Analytical experiments designed to measure parameters of environmental significance,

Alternative energy sources.
Coal conversion process.
Synthetic production of fuels using catalysts.

Content
To introduce fundamental concepts in manufacturing chemistry with relevant
To prepare students for IBL in the chemical industry in Australia and overseas.

Aims & Objectives
- To study the processes which distribute chemicals in the environment.
- To study methods used to classify waste.
- To study methods of identifying and assessing the environmental impact of chemicals.

Chemical Processes in Water, Soil and Air:
- Chemical processes in unpolluted water, soil and air.
- Monitoring of air and water pollutants.
- Water quality indicators, methods of analysis pollutants in water.
- Drinking water and wastewater treatment.
- Analysis of Natural and Waste Water

Analytical experiments designed to measure parameters of environmental significance, while extending analytical chemistry skills. Analysis of dissolved oxygen, phosphate and chromium, and the evaluation of a portable test kit for 3 tests, nitrate, manganese and turbidity.

Hazardous Materials and Chemical Wastes:
- Chemical perspectives of hazards.
- The class labelling of dangerous goods.
- Types of hazardous chemicals.
- Material safety data sheets.
- Toxic chemicals - overview of human and environmental toxicology.
- Classification and management of waste.
- Melbourne's trade wastes.
- Treatment of prescribed waste.
- Soil quality guidelines.
- Methods of analysis of heavy metals and organic pollutants in soil.
- Identification, assessment and remediation of contaminated sites.

Identification of Inorganic Pollutants:
- Practical work identifying inorganic cations and anions of environmental significance in unknown mixtures.
- Classical wet chemical techniques using the processes of precipitate formation, pH adjustment, and complex ion formation covered in earlier topics.

Reference
Rose, G.G., Water Chemistry (printed notes), Swinburne Press.

HES2535 - Analytical Chemistry

Aims & Objectives
- Application of thermodynamics to the extraction of metals from their ores and wastes.
- Principles of preconcentration, roasting and electrolytic refining.
- Selected elements will be studied in detail.

Polymer Chemistry:
- Classification of polymers.
- Polymisation reactions and industrial polymerisation processes.
- Properties of polymers in relation to structure.
- Uses of polymers.

Chemical Processing:
- Introduction to the chemical industry and chemical processing fluid flow.
- Heat transfer.
- Separation processes.
- Process analysers.
- Process control.
- Transition metal chemistry.
- Study of simple compounds of the 1st row transition elements in the solid and solution state with emphasis on the relative stability of the different oxidation states and their acid/base properties. Extensive use is made of latimer and volt-equivalent diagrams.
- Extension of knowledge from first row series study to the second and third series of transition elements with important differences highlighted.
- Chemistry of the lanthanide elements.

References

HES2540 - Forensic and Analytical Science

Aims & Objectives
- To study the chemical and biochemical techniques used by forensic scientists to assist the judicial system to help solve crimes, or to help prove that a law has been broken.
- To visit a laboratory where forensic analysis is carried out.
- To study the theoretical basis and areas of application for the most commonly used areas of high sensitivity, highly selective instrumental separation science (chromatography) and the most widely used but diverse methods of detection of chemicals (spectroscopy).
- To study the molecular structures, sizes, compositions, polarities and charges of organic chemicals used in forensic applications so that an understanding of the appropriate analytical technique to be used for their accurate measurement can be identified.

Content
Forensic Science:
- Introduction to forensic science.
- Chronological landmarks in the history of forensic science.
- Legal aspects of forensic science and the admissibility of forensic evidence in the legal system.
- Drugs in racing, sport and the workplace.
- Forensic application of Infra Red (IR), Mass Spectroscopy (MS), High Performance Liquid.
- Chromatography (HPLC) and Gas Chromatography (GC).
- DNA fingerprinting.

Analytical Science:
- Chromatography as a separation process.
- Systematic relationships governing the chromatographic process.
- Typical GC and HPLC instrumentation and processes.
• Adapts to commonplace applications.
• Basic spectroscopy principles and instrumentation.
• Atomic absorption and emission spectroscopy.
• Infrared spectroscopy and ultraviolet/visible spectroscopy.

Organic Chemistry:
• Conjugation.
• Resonance.
• Aromaticity.
• Huckel rule.
• Arenes.
• Electrophilic and nucleophilic aromatic substitution.
• Carbocations.
• Stabilisation.
• Rearrangements.

References
Brower, I.C., Atomic and Molecular Spectroscopy, (printed notes), Swinburne Press.
Bowater, J.C., Atomic and Molecular Spectroscopy, (printed notes), Swinburne Press.

HES2620 Biochemistry 1
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, practical demonstrations, practical classes, extensive use of multimedia learning resources. Learning extension program via the Internet.
Assessment: Assignments 10%, Short tests 10%, Final Exam 40%, Practical Reports 30%, Practical Test 10%.
A subject in the Bachelor of Applied Science (Biochemistry/Chemistry), Bachelor of Applied Science (Psychology/Biochemistry).

Aims & Objectives
• To acquaint students of the structural complexity of biomolecules and their functions.
• To provide a detailed understanding of the structure, function and kinetic properties of enzymes and their role in metabolic activities in the living cell.
• To examine the main catabolic pathways of the cell and how they are integrated with other reaction sequences within the cell.
• To develop basic practical biochemical skills for the handling and analysis of biomolecules.

Content
• Structure, chemical properties and function of the main classes of biomolecules including monosaccharides, polysaccharides, amino acids, peptides and proteins, fatty acids, triacylglycerols and related lipids, nucleotides and nucleic acids.
• Enzyme kinetics, reaction mechanisms, Michaelis-Menten kinetics, methods for analysis, inhibition of enzyme activity.
• Principles of bioenergetics, strategies of metabolism, types of metabolic reactions.
• Reactions of glycolysis, glycolysis, Krebs cycle and oxidative phosphorylation.
• Overview of nitrogen catabolism and lipid catabolism and their integration with carbohydrate catabolic pathways.
• Practical program to support the above theory including spectrophotometry, quantitative and qualitative analysis of carbohydrates and proteins, handling of enzymes and determination of their kinetic properties.

References
Matthews, C.K., Jan Holde, K.E., Biochemistry, 2nd Edn., Benjamin-Cummings, 1996.

HES2621 Introduction to Biochemistry
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, practical demonstrations, practical classes, extensive use of multimedia learning resources. Learning extension program via the Internet.
Assessment: Assignments 10%, Short tests 10%, Final Exam 40%, Practical Reports 30%, Practical Test 10%.
A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Business, Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Science (Biotechnology), Bachelor of Science (Biotechnology)/Bachelor of Business and Bachelor of Science (Biotechnology)/Bachelor of Arts (Media & Communications).

Aims & Objectives
• To acquaint students of the structural complexity of biomolecules and their functions.
• To provide a detailed understanding of the structure, function and kinetic properties of enzymes and their role in metabolic activities in the living cell.
• To examine the main catabolic pathways of the cell and how they are integrated with other reaction sequences within the cell.
• To develop basic practical biochemical skills for the handling and analysis of biomolecules.

Content
• Structure, chemical properties and function of the main classes of biomolecules including monosaccharides, polysaccharides, amino acids, peptides and proteins, fatty acids, triacylglycerols and related lipids, nucleotides and nucleic acids.
• Enzyme kinetics, reaction mechanisms, Michaelis-Menten kinetics, methods for analysis, inhibition of enzyme activity.
• Principles of bioenergetics, strategies of metabolism, types of metabolic reactions.
• Reactions of glycolysis, glycolysis, Krebs cycle and oxidative phosphorylation.
• Overview of nitrogen catabolism and lipid catabolism and their integration with carbohydrate catabolic pathways.
• Practical program to support the above theory including spectrophotometry, quantitative and qualitative analysis of carbohydrates and proteins, handling of enzymes and determination of their kinetic properties.

References

HES2625 Biochemistry 2
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HES1505 • Teaching methods: Lectures, practical demonstrations, practical classes, extensive use of multimedia learning resources. Learning extension program via the Internet.
Assessment: Written Assignment 10%, Final Exam 50%, Practical Reports 30%, Practical Test 10%.
A subject in the Bachelor of Applied Science (Psychology/Biochemistry).

Aims & Objectives
• To explore the molecular detail of the flow of genetic information within both prokaryotic and eukaryotic cells and the control mechanisms used.
• To provide an insight into the complexity of the structure of different types of proteins and our understanding of structure-activity relationships of proteins and their roles in biological processes.
• To further develop basic biochemical laboratory skills essential in modern biotechnology laboratories.

Content
• Review of structure of DNA and RNA.
• Replication of DNA.
• Restriction, repair, recombination, rearrangement and amplification of DNA sequences.
• Transcription, mechanisms of regulation of transcription, processing of eukaryotic mRNA, splicing, ribozymes.
• Processes involved in translation, control mechanisms, chain folding and post-translational modification.
• Physical organisation of genomes, repetitive sequences, introns.
• Protein targeting and transport, degradation, capsases and apoptosis.
• Protein structure: organisational levels, folding pathways, interactions underlying protein structure, types of functional domains and motifs, structural analysis.
• Functional analysis of different classes of proteins including storage, transport, regulatory, messengers, antibodies and structural proteins.
• Mechanism of activity of model proteins including haemoglobin, allosteric behaviour of proteins.
• Contractile systems and molecular motors.
• Evolution of proteins.
Aims & Objectives

- To explore the molecular detail of the flow of genetic information within both prokaryotic and eukaryotic cells and the control mechanisms used.
- To provide an insight into the complexity of the structure of different types of proteins and our understanding of structure-activity relationships of proteins and their roles in biological processes.
- To further develop basic biochemical laboratory skills essential in modern biotechnology laboratories.

Content

- Review of structure of DNA and RNA.
- Replication of DNA.
- Restriction, repair, recombination, rearrangement and amplification of DNA sequences.
- Transcription, mechanisms of regulation of transcription, processing of eukaryotic mRNA, splicing, ribosomes.
- Processes involved in translation, control mechanisms, chain folding and post-translational modification.
- Physical organisation of genomes, repetitive sequences, introns.
- Protein targeting and transport, degradation, caspases and apoptosis.
- Protein structure: organisational levels, folding pathways, interactions that underlie protein structure, types of functional domains and motifs, structural analysis.
- Functional analysis of different classes of proteins including storage, transport, regulatory, messengers, antibodies and structural proteins.
- Mechanism of activity of model proteins including haemoglobin, allosteric behaviour of proteins.
- Contractile systems and molecular motors.
- Evolution of proteins.

The theory component will be supported by relevant practical exercises that will illustrate some of the principles covered including analysis of DNA, purification of proteins and their characterisation and computerised analysis of protein structure. Also practical lectures on GLP and GMP, data handling and recording, interpretation and reporting.

References

- To gain the necessary laboratory skills to undertake final year food-related research projects.

**Content**
- Role of micro-organisms in food spoilage.
- Food borne pathogens and toxins, control methods, food preservation methods.
- Viruses.
- Host-parasite relationships.
- Host responses to infection - the immune system.
- Clinical and diagnostic microbiology.
- Fermentation microbiology - manufacture of food, bioreactors.
- Related practical exercises.

**References**

**HES2636 Microbes in the Environment**

12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, practical demonstrations, practical classes, extensive use of multimedia learning resources. Learning extension program via the Internet. • Assessment: Theory Test 35%, Final Exam 35%, Practical Test 10%, Practical reports 20%.

A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Science (Biotechnology)/Bachelor of Business and Bachelor of Science (Biotechnology)/Bachelor of Arts (Media & Communications).

**Aims & Objectives**
- To introduce the fundamental concepts involved in food microbiology and its importance to the food processing industry.
- To understand the role and importance of food microbiology in food safety and quality assurance issues.
- To gain the necessary laboratory skills to undertake final year food-related research projects.

**Content**
- Role of micro-organisms in food spoilage.
- Food borne pathogens and toxins, control methods, food preservation methods.
- Viruses.
- Host-parasite relationships.
- Host responses to infection - the immune system.
- Clinical and diagnostic microbiology.
- Fermentation microbiology - manufacture of food, bioreactors.
- Related practical exercises.

**References**

**HES2700 Food Science**

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: HES1615 & HES1616 • Teaching methods: Lectures, Laboratory Practical. • Assessment: Assignments, Examinations, Lab Reports.

A subject in the Bachelor of Health Science (Environmental Health Management) and Bachelor of Health Science (Public and Environmental Health).

**Aims & Objectives**
- To study food chemistry analytical techniques used in the food industry.
- To study the use purpose and function of permissible food additives.
- To examine natural hazards associated with food.
- To study basic organic chemistry relevant to food composition.

**Content**
- Organic Chemistry: Molecules which play a major role in food composition.
- Food Chemistry: Techniques used in determination of carbohydrate, protein and lipid in foods.
- Determinants of the amount of micronutrients in food.
- Methods used for determining the water content of foods.
- Determination of the calorie or joule content of foods.
- Other manual and instrumental techniques used in food analysis to determine compliance with the Food Standards Code.
- Chemical additives to food will be considered under the following headings: chemical classes of food additives, historical aspects, permitted compounds, reasons for use, function, advantages, disadvantages, breakdown pathways, toxicity testing, regulatory control.
- Classes of chemical additives to be considered will include the following: preservatives, antioxidants, flavouring compounds, sweetening agents, flavour enhancers, nutrients, emulsifiers.
- Natural hazards associated with food including MSG, Solanine, Mycotoxins, Seafood Toxicosis, Ciguatera.

**References**
Food Standards Code.
HES2725 Food Safety

12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: HESS2020

Teaching methods: Lectures, Field Demonstrations, Group Work.

Assessment: Assignments, Examinations, Tutorials.

A subject in the Bachelor of Health Science (Environmental Health Management) and Bachelor of Health Science (Public and Environmental Health).

Aims & Objectives

- To develop the skills necessary to effectively monitor food safety against statutory and other requirements and to institute legal proceedings if required.
- To develop a practical understanding of the principles of HACCP and HACCP plan development, particularly in relation to the retail sector.
- To describe major public health pests pertinent to the food industry, including measures for prevention, detection and control.

Content

- Food Safety Legislation: Food Act Codes.
- Statutory requirements and obligations of the food industry including Food Safety Programs.
- Registration: legal proceedings, warranties, due diligence defences.
- Food contamination: types of contamination, conditions for presence.
- Food risk classification: Storage, thawing, and re-heating technique.
- Effective use of detergents and sanitisers and cleaning schedules.
- HACCP principles and plan development/assessment in retail establishments.
- Food Handling Hygiene: personal hygiene, cross-contamination, safe/unsafe handling, case studies.
- Food Premises Fit-out Guidelines: space, product flow, lighting, ventilation. Surfaces and equipment construction, design and installation, plan review.
- Food Premises Assessment: effective communication technique, assessment procedure, equipment requirements and use, sampling techniques.
- Pest Management: Pest vectors pertinent to the food industry, detection, identification and control procedures, integrated Pest Management strategies.

References

Construction Guidelines for Food Premises, Dept of Human Services, Victoria, 1996.

HES2735 Communicable Disease Control

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil

Teaching methods: Lectures • Assessment: Examinations, Tests.

A subject in the Bachelor of Health Science (Environmental Health Management) and Bachelor of Health Science (Public and Environmental Health).

Aims & Objectives

- To introduce the study of immunology and its relationship to the development of immunisation practices.
- To examine and understand Australian immunisation procedures.
- To study the nature, transmission and control of communicable diseases of public health importance in a local and global context.

Content

- Overview, nature and scope of communicable diseases of public health significance, including nature, transmission and control.
- Immunology, immunisation procedure, immunisable diseases e.g. Diphtheria, Tetanus, Measles, Rubella, Poliomyelitis, Pertussis, Mumps, Meningitis, Hepatitis.
- Diseases spread by contact and aerosols including Mycobacterium marium, Leptospira spp. Legionnaire’s Disease, Toxic Cytobacteria, Pseudomomas aerogena, Tuberculosis.
- Disease spread by ingestion, including bacterial, protozoa, viruses e.g. Cholera, Typhoid and Paratyphoid fevers, Shigella, E. coli (ETEC etc) Campylobacter, Salmonella, Clostridia, Cryptosporidia, Giardia, Entamoeba, Hepatitis, Rotavirus, Norwalk.
- Diseases spread by direct contact inc: Impetigo caused by S. aureus, S. pyogenes, S pneumoniae, Herpes, Pediculosis, Scabies.
- Zoonotic diseases including Anthrax, Brucellosis, Hydatids, Taeniasis, Toxoplasmosis.
- Vector-borne diseases, Malaria, Dengue, Arbo viruses.
- Infection control for skin penetration practices.
- Principles of epidemiology. Approaches, data sources and measurements.
- Surveillance and outbreak investigation.

References

Jekel, J.F., Epidemiology, Biostatistics and Preventative Medicine, W.B. Saunders Company, 1996.

Relevant Codes and Standards.

HES2740 Environmental Health Technology

12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: Nil

Teaching methods: Lectures, Field Exercises • Assessment: Assignments, Tests.

A subject in the Bachelor of Health Science (Environmental Health Management) and Bachelor of Health Science (Public and Environmental Health).

Aims & Objectives

- To provide students with an understanding of selected engineering principles and the ways in which they can be employed to resolve particular environmental problems.
- To introduce the student to liquid waste disposal theory and practice, standards of installation, application and regulatory control.

Content

- Mechanical engineering plant: principles and standards to be met by heating, ventilating, air-conditioning, refrigeration, thermal comfort, and sick buildings.
- Recognition and analysis of problems, reports and recommendations, maintenance of records.
- Vibration/communications: theory and practice of vibration and noise control applied to equipment and plant including ventilation systems and food processing plant.
- Codes of practice for noise emission and control.
- Minimising health risks associated with high levels of vibration and noise.
- Waste water disposal theory: vented, vented-modified, single stack, single stack modified systems.
- Standards of installation, application and supervision.
- Codes of practice.

References


Relevant Codes and Standards.

HES2900 Commercial Pilot Licence 2

12.5 Credit Points • 1 Semester • 72 Hours • Hawthorn • Prerequisite: HES1905

Teaching methods: Classroom • Assessment: Examination 60%, Assessed work 40%.

Candidates must in addition achieve satisfactory progress in their flying training towards the CASA CPL to receive a pass in this subject.

A subject in the Bachelor of Technology (Aviation) and Bachelor of Technology (Aviation)/ Bachelor of Business.

Aims & Objectives

To consolidate the theory taught at CPL 1 and to further develop the knowledge necessary for the student to undertake practical training for the Commercial Pilots’ Licence.

Content

Advanced Flight Planning 2:
- Use of ERS(A).
- Aerodromes and Authorised Landing Areas.
- Use of ERS(A).
- Loading.
- Flight plan preparation, flight planning, equi-time point and point of no return.
- Airmanship and equipment.

Advanced Procedures 2:
Bachelor of Technology (Aviation) and Bachelor of Technology (Aviation)/Bachelor of Business.

Aims & Objectives
To provide the student with a knowledge of heavy jet flight planning and performance to a level required for operational situations encountered in the airline industry.

Content
Operation Performance and Flight Planning to ATPL:
- Broaden understanding of flight manual.
- Density altitude.
- Aerodromes.
- Take off and landing performance.
- Cruise performance.
- Weight and balance requirements of CAO 20.7.1B.
- Purpose, use, value and limitations of a flight plan.

Enroute Performance and Methods of cruise control:
- Presenting performance data.
- Use of graphs and tabulations.
- Methods of cruise control.
- Right at high speed and high altitude.
- Choice of route and amount of reserve fuel.
- Selection of best route, weather.
- Minimum fuel/time.
- Engine and aircraft performance.
- Payload.
- Air traffic regulations.
- Navigation aids.
- Safety heights.
- Fuel volume.
- Temperature variation.
- Alternates.
- Right plans using various cruise control procedures.

The use of aircraft performance data:
- Allowable loading and runway requirements for take off and landing.
- Use of aircraft performance data and meteorological data for optimum operation.
- Effect of failure of one or more power units.
- Right progress charts.
- Long distance flight plans.
- In flight changes and emergency operations, PNR, ETP, LPSD.

Textbook

References
Civil Aviation Safety Authority, Civil Aviation Orders, Regulations, Amendments. Civil Aviation Safety Authority, ATPL Syllabus.

HES2910 Human Factors and Performance
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: HES1910
Teaching methods: Classroom • Assessment: Examination 60%, Assignment 30%, Presentation 10%.

A subject in the Bachelor of Technology (Aviation), Bachelor of Technology (Air Transportation Management), Bachelor of Technology (Aviation)/Bachelor of Business and Bachelor of Technology (Air Transportation Management)/Bachelor of Business.

Aims & Objectives
To introduce the student to Aviation Human Factors and its importance in the operation of modern commercial aircraft.

Content
- Stress and stress management.
- Human error and workload.
- Attention, monitoring and fatigue.
- Basic decision making/pilot judgement.

Swinburne University of Technology | Higher Education Handbook 2002
• Flight crew error.
• Systems theory.
• Managing risk and apportioning blame.
• Effective teamwork and communication.
• Flight safety audit and key flight safety issues.
• Personality.
• Ergonomics.
• Automation.
• Simulation.
• Advanced decision making.
• Case studies.

References

Textbooks

HES2915  Airline Operations

Aims & Objectives
To facilitate an understanding of the functions, processes and relationships involved in airline ground operations. To consider the development of a model for examining some of the complexities of planning, coordinating, and controlling a modern airline fleet in the context of operational and commercial environments.

Content
• Systemic overview.
• Interrelationships between airline and non-airline functions.
• Airport Passenger and Freight Terminal Management.
• Port Co-ordination.
• Liaison, gate utilisation, passenger and staff displays, special arrangements.
• Airside Traffic Operations.
• Ramp, despatch, gate/block functions, load control, ground servicing.
• Aircraft Ground Handling.
• Engineering, catering, cabin cleaning, refuelling, passenger, baggage and freight unloading/loading.
• Scheduling.
• Schedules Planning, Aircraft route and type selection.
• Operational Control.
• Liaison, tasks, responsibilities, Aircraft utilisation, Planning and Current day control.
• Crew Scheduling.
• Technical and Flight Attendant Crowing - tours of duty, restrictions.
• Maintenance Scheduling.
• Maintenance release hours, line and hangar servicing.

References

HES2925  Air Transport Pilot Licence 1

Aims & Objectives
To provide the student with a knowledge of heavy jet flight planning and performance to a level required for operational situations encountered in the airline industry.

Content
Operation Performance and Flight Planning to ATPL:
• Broader understanding of flight manual.
• Density altitude.
• Aerodromes.
• Take off and landing performance.
• Cruise performance.
• Weight and balance requirements of CAO 20.7.1B.
• Purpose, use, value and limitations of a flight plan.
• Enroute Performance and methods of cruise control:
• Presenting performance data.
• Use of graphs and tabulations.
• Methods of cruise control.
• Flight at high speed and high altitude.
• Choice of route and amount of reserve fuel.
• Selection of best route, weather.
• Minimum fuel/time.
• Engine and aircraft performance.
• Payload.
• Air traffic regulations.
• Navigation aids.
• Safety heights.
• Fuel volume.
• Temperature variation.
• Alternates.
• Flight plans using various cruise control procedures.
• The use of aircraft performance data:
• Allowable loading and runway requirements for take off and landing.
• Use of aircraft performance data and meteorological data for optimum operation.
• Effect of failure of one or more power units.
• Flight progress charts.
• Long distance flight plans.
• In flight changes and emergency operations, PNR, ETP, LPSSD.

Textbook

References
Civil Aviation Safety Authority, Civil Aviation Orders, Regulations, Amendments.
Civil Aviation Safety Authority, ATP, Syllabus.

HES2930  Aircraft Structures

Aims & Objectives
To provide the student with a knowledge of heavy jet flight planning and performance to a level required for operational situations encountered in the airline industry.

Content
• Systemic overview.
• Interrelationships between airline and non-airline functions.
• Airport Passenger and Freight Terminal Management.
• Port Co-ordination.
• Liaison, gate utilisation, passenger and staff displays, special arrangements.
• Airside Traffic Operations.
• Ramp, despatch, gate/block functions, load control, ground servicing.
• Aircraft Ground Handling.
• Engineering, catering, cabin cleaning, refuelling, passenger, baggage and freight unloading/loading.
• Scheduling.
• Schedules Planning, Aircraft route and type selection.
• Operational Control.
• Liaison, tasks, responsibilities, Aircraft utilisation, Planning and Current day control.
• Crew Scheduling.
• Technical and Flight Attendant Crowing - tours of duty, restrictions.
• Maintenance Scheduling.
• Maintenance release hours, line and hangar servicing.

References
Aims & Objectives
To provide students with an introduction to the strength of materials and their behaviour as loaded members in aircraft structures. Corrosion and fatigue is also addressed in the context of an ageing general aviation aircraft fleet.

Content
- Structural loading, aerodynamic and inertia.
- Load analysis.
- Structurally determinate struts, ties, beams, shafts and simple frames.
- Shear force, axial force, torque and bending moment diagrams.
- Stress and strain.
- Normal stress, average shear stress, bending stress and shear stress due to torque, Young's Modulus, strain.
- Euler buckling of slender pin jointed columns.
- Yield stress and ultimate stress.
- Safety factors.
- Limit, proof and ultimate load.
- Introduction to aircraft materials.
- Aluminum alloys, steel alloys, advanced composites.
- Metal corrosion.
- Causes, time dependent, time related and time independent, common areas of corrosion in aircraft structures, methods of protection.
- Fatigue.
- The mechanism of fatigue, manoeuvre and gust load spectra, stress concentrations, crack propagation.
- Fatigue life determination and fatigue test methods.

References
Middleton, D., Composite Materials in Aircraft Structures.
Anon., Aircraft Corrosion Control, EA-CC-1. IAP Inc.

HES2935 Aircraft Maintenance
12.5 Credit Points  •  1 Semester  •  60 Hours  •  Hawthorn  •  Prerequisite: HET124  •  Teaching methods: Classroom and Hangar  •  Assessment: Examination 50%, Assessed work 50%.
A subject in the Bachelor of Technology (Aviation), Bachelor of Technology (Air Transportation Management), Bachelor of Technology (Aviation)/Bachelor of Business, and Bachelor of Technology (Air Transportation Management)/Bachelor of Business.

Aims & Objectives
To give the student an understanding of the maintenance practices of a commercial aircraft operator, especially in the context of legal and commercial requirements. To provide students the opportunity to familiarise with and to gain understanding through practical experience, in the maintenance allowed to be conducted by Commercial pilots on aircraft, as listed in Schedule 8 of the Civil Aviation Regulations.

Content
Maintenance Practices:
- CASA Maintenance requirements, aircraft less than 5700kg, aircraft greater than 5700kg.
- Hard time, on condition, soft time.
- Airline maintenance practices.
- Gas turbine condition trend monitoring and oil analysis.
- Maintenance controller and systems of maintenance, ACARS/Data Recorders.
- Logbooks/Maintenance release/legal documents.
- MEL (Minimum Equipment List), CDL (Configuration Deviation List), PUS (Permissible Unserviceabilities).
- Reporting of incidents and failures.
- ETOPS (Engine aspects).

CASA approved Schedule 8 course:
- Removal and installation of landing gear tyres, repair of pneumatic tubes of landing gear, servicing of landing gear tyres.
- Replacement of defective safety wiring or split pins.
- Removal or refitting of a door.
- Replacement of a door or a side window (unpressurised aircraft).
- Replacement of seats, seat belts, or harnesses.
- Repairs to upholstery or decorative furnishings.
- Replacement or repair of signs and markings, bulbs, reflectors, glasses, lenses, or lights.
- Replacement, cleaning or setting gaps of spark plugs.
- Replacement of batteries.
- Changing of oil filters, replenishing engine oil, fuel, hydraulic fluid.
- Lubrication, application of preservative materials.
- Removal or replacement of agricultural equipment, or glider tow hooks.
- Carrying out inspection of a flight control system.
- Carrying out of a daily inspection.

References
Relevant Aircraft Maintenance Manuals.
Civil Aviation Safety Authority, Civil Aviation Orders, Regulations, Amendments.

HES2940 Aircraft Aerodynamics and Performance
12.5 Credit Points  •  1 Semester  •  60 Hours  •  Hawthorn  •  Prerequisite: HET124  •  Teaching methods: Classroom and Hangar  •  Assessment: Examination 70%, Assessed work 30%.
A subject in the Bachelor of Technology (Aviation), Bachelor of Technology (Air Transportation Management), Bachelor of Technology (Aviation)/Bachelor of Business, and Bachelor of Technology (Air Transportation Management)/Bachelor of Business.

Aims & Objectives
To reinforce the student’s understanding of the basic aerodynamic factors influencing aircraft performance and present a theoretical explanation for the observed effects of flight parameter changes.

Content
The atmosphere:
- Air as a fluid.
- Compressible and incompressible flow, fluid, viscosity, pressure distribution of a body in fluid flow.
Airfoils and wings, planform effects:
- Aspect ratio, sweep, taper, high lift devices (flaps, slots, slats), aerodynamic characteristics (M.A.C., camber, coefficients, ratios).
- Lift/Drag relationship.

Drag analysis:
- Parasite, induced, boundary layer.
Aircraft Performance:
- Maneuvering – bank angle, turn radius.
- Take-off – speeds (V1, V2, VMU, VMCG, Vmca).
- Climb – Thrust/Power available and required, rate of climb, climb gradient, flap retraction, ceiling.
- Cruise – Range and Endurance – effects of temperature/altitude/speed, minimum drag, engine inoperative driftdown and Vcl, wind effects on descent profile.

Introduction to Static Stability:
- Longitudinal stability, neutral point, aeroelastic effects, directional stability, lateral stability.

Introduction to Dynamic Stability:
- Dihedral effects, Dutch Roll, flutter, centre of gravity and sweepback effects.

Control considerations:
- Stall, spinning, deep stall, rudder lock.

Textbook
References

HES2945 Aircraft Design and Operation
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HES2940 • Teaching methods: Classroom • Assessment: Examination 60%; Assessed work 40%.
A subject in the Bachelor of Technology (Aviation), Bachelor of Technology (Air Transportation Management), Bachelor of Technology (Air Transportation Management)/Bachelor of Business.

Aims & Objectives
To provide the student with a fundamental understanding of the design principles behind the design of an aircraft. The performance aspects are also extended to address the economics of flight of jet transports.

Content
• Design process.
• Project design methodology; overall systems study, project design phase, detail design phase.
• Project design.
• Estimation of take off weight, empty weight, fuel weight.
• Estimation of required take off and climb power, wing area.
• Landing and take off performance, climb and cruise performance.
• Estimation of parasitic and induced drag coefficients.
• Tail volume stability requirements.
• Gust and Maneuver Diagrams.
• Operation.
• Economy Climb.
• Force – Speed Diagrams.
• Maximum Range Cruise, Long Range Cruise and Specific Range.
• Economy cruise, cost index.
• Payload/Range curves.
• Introduction to flight testing methods.

References

HES2985 Aviation Business Management
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures 2 Hours, Assignments/Tutorials 2 Hours. • Assessment: Examination 50%, Assignments/tutorials 50%.
A subject in the Bachelor of Technology (Aviation), Bachelor of Technology (Air Transportation Management), Bachelor of Technology (Aviation)/Bachelor of Business and Bachelor of Technology (Air Transportation Management)/Bachelor of Business.

Aims & Objectives
• To provide foundation management and business skills.
• To prepare students for both broad based and highly focussed business careers.
• To introduce the multi-disciplinary nature of management and the aviation business.

Content
• Organisational Structures.
• Models, line and staff, flat, multiple reporting, office, line maintenance, flying operations.
• Risk Management.
• Finance, purchasing versus leasing, human response management, employment practices.
• Human Resources.
• Issues in staffing and employment contracts.
• Employee Relations/Industrial Relations climate and culture.
• Employee Relations and the Australian Competition and Consumers Commission (ACCC).
• Responsibility, Authority and Accountability.
• Nature of delegation.
• Aviation Business.
• Management practices, accounting practices, costing – direct and indirect.
• General Aviation and Charter.
• Certification, Air Operators Certificate (AOC), aircraft selection and acquisition, passenger/freight pricing, yield management, preparing quotations, pilot and staff salaries.
• Aviation Information Technology.
• Information Management systems, practices and processes.

References
CARs, B9 and B2, 100-104 series, CASA.

HES2990 Airport Planning and Management
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Classroom • Assessment: Examination 70%, Assessed work 30%.
A subject in the Bachelor of Technology (Air Transportation Management), Bachelor of Technology (Aviation)/Air Transportation Management/Bachelor of Business.

Aims & Objectives
To provide the student with a good understanding of the principles and practices relating to airport development and management. Students are introduced to the airport industry, how airports are planned and managed, how airports obtain revenue and where their costs lie. Airport design is discussed so that an appreciation of airport infrastructure and standards required is reached.

Content
• Introduction to the Airport Industry.
• Passenger behaviour in the terminal.
• Customer relations and marketing.
• Management of small/undeveloped airports.
• Ownership models.
• Airport fees and charges.
• Economic impact of airports.
• Airport master planning.
• Terminal layout.
• Standard and busy rates.
• Customs, immigration and quarantine.
• Choice and location of Navigation Aids.
• Aircraft noise.
• Overview of pavement design.

Textbook

References

HES3021 HeatTransfer
HES3022
Aims & Objectives
To develop competence in the application of heat transfer theory to the analysis of practical heat transfer problems, design and selection of heat exchangers, and evaluation of heat exchanger performance.

Content
Review:
- The laws of conservation of mass and energy and their applications.
- The second law of thermodynamics.
- Differential equations and their applications in rate processes.
- Mechanisms of heat transfer, theory and applications.

Conduction:
- Fourier's law of heat conduction.
- Thermal conductivity.
- Concept of thermal resistance and driving force.
- Steady-state heat conduction through a single plane wall, composite walls, and thick-walled cylinders and spheres.
- Multi-dimensional and transient conduction.
- Numerical methods.

Convective Heat Transfer:
- Heat-transfer coefficient.
- Fluid flow in convection, laminar and turbulent flow, boundary-layer theory.
- Concept of similarity, dimensional analysis.
- Prediction of heat-transfer coefficients in forced and natural convection, condensation and boiling heat transfer.
- Heat exchangers: types and construction, firm and overall coefficients, log-mean temperature difference, effectiveness NTU method, fouling factor, pressure drop, optimum design of shell and tube heat exchangers.

Radiation:
- Nature of thermal radiation, black-body and real-body radiation, Stefan-Boltzmann's equation, Planck's law of radiation.
- Gas radiation.
- Solar radiation.

References

HES3025 Mass Transfer
12.5 Credit Points • 1 Semester • Hawthorn • Prerequisite: Substantial completion of second year subjects, plus HES3022. Teaching methods: Lectures, Guest Lectures, Tutorials, Plant Visits, and Laboratory. Assessment: Assignments, Examinations
A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Business, Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Engineering (Chemical & Bioprocess)/Bachelor of Business.

Aims & Objectives
To apply the principles of mass transfer and phase equilibrium to problems involving diffusion with or without chemical reactions, to separation processes, and to the design of equipment used in mass transfer operations.

Content
Diffusion mass transfer:
- Unimolar transfer and equimolar counter-transfer.
- Diffusion with chemical reaction.
- Transient diffusion.

Convective mass transfer:
- Mass-transfer coefficient: film and overall coefficients.
- Fluid flow in convection, laminar and turbulent flow, boundary-layer theory.

Interphase mass transfer:
- Phase equilibrium.
- Theories of interphase mass transfer, film theory, penetration theory, random surface renewal theory.
- Design of continuous differential contactors.
- Height of transfer unit and number of transfer units.

Combined heat and mass transfer:
- Humidification, drying, and crystallization.

References

HES3030 Reaction Engineering
12.5 Credit Points • 1 Semester • Hawthorn • Prerequisite: Substantial completion of second year subjects. Teaching methods: Lectures, Tutorials, Laboratory Assessment: Assignments, Examinations
A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Business and Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology).

Aims & Objectives
To understand the nature of physical processes interacting with the chemical reactions in reactive systems, in order to select the suitable reactor type, size and operating conditions.

Content
- Review of basic chemistry. Stoichiometry, order of reaction, effect of temperature on heats of reaction and heat capacity, van't Hoff equation.
- Chemical kinetics, effect of temperature and other variables on reaction rate, kinetics of homogeneous reactions.
- Types of ideal reactors.
- Definition of ideal reactors, continuous-stirred-tank and plug flow reactors, mixed-flow reactors, reactors in series and parallel.
- Batch reactor design
- Constant-volume batch reactor and analysis of data, variable volume batch reactor and analysis of data.
- Design for single reactions.
- Size comparisons of single reactors, CSTR versus PFR for first and second order reactions.
- Temperature and pressure effects.
- Heats of reaction and equilibrium constants.
- General design procedure.
- Optimum temperature progression.
- Adiabatic and non-adiabatic operations.
- Non-ideal flow in reactors.
- Residence time distribution, age distribution curves, use of tracer information, diagnostics for equipment performance.
- Heterogeneous reaction systems.
- Fluid/particle reactions, Shrinking-core model for particles of unchanging size and associated controlling mechanisms, reaction rate for shrinking particles and associated controlling mechanisms, non-spherical particles, fluid-bed reactors.
- Design and analysis of biological reactors, Enzyme-catalysed reactions.
- Recycle and wall growth.
- Mixing-bioreaction interactions.
- Sterilization biocatalysis.
• Immobilized biocatalysis.
• Fermentation technology.
• Animal and plant cell reactor technology.

References

HES3045 Separation Processes
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: All first & second year subjects, plus HES3022 • Teaching methods: Lectures 36 Hours, Tutorials 24 Hours. • Assessment: Assignments, Examinations.
A subject in the Bachelor of Engineering (Biotechnology)/Bachelor of Engineering (Biotechnology/Bachelor of Science) and Bachelor of Engineering (Chemical & Bioprocess)/Bachelor of Business.

Aims & Objectives
• To develop an understanding of the types of separation processes that can be used in Chemical Engineering plants.
• To apply basic engineering science in the design of separation systems.
• To develop basic design skills for selecting and sizing separation systems.
• To develop an understanding of, and a sensitivity to, the environmental impact of separation processes.

Content
Leaching:
• Mass transfer in leaching operations, countercurrent washing of solids, calculation of number of stages, graphical methods.
Distillation:
• The methods of distillation (two component mixtures), the fractionating column, multi-component mixtures, azeotropic and extractive distillation, steam distillation.
Liquid-liquid extraction:
• Extraction processes, calculation of number of theoretical stages.
Adsorption:
• The nature of adsorbents, adsorption, adsorption equilibria.
Membrane separation processes:
• Classification of processes, micro filtration, ultra filtration.

References

HES3105 Industry-based Learning
50 Credit Points • 1 Semester • Hawthorn • Prerequisite: Completion of 5 semesters.
A subject in the Bachelor of Engineering (Civil).

HES3110 Civil Design and Materials
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: All first and second year subjects • Teaching methods: Lectures 36 Hours, Tutorials 24 Hours. • Assessment: Assignments, Examinations.
A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Arts and Bachelor of Engineering (Civil)/Bachelor of Business.

Aims & Objectives
• To provide an appreciation of a systematic approach to design of civil engineering systems including analysis of design objectives and criteria.
• To develop basic skills in foundation and drainage design.
• To understand properties and use of common engineering materials.
• To develop skills through application to subdivision design.

Content
Introduction to the design process (24%).
• Problem formulation, user requirements, problem analysis, design specification, developing alternative solutions, creativity, evaluating design options, decision criteria and processes, documenting chosen design - drawings, design specifications. System reliability, fail-safe design, risk.
Residential foundation systems (16%):
• Site investigation and interpretation, site classification, selection of footing type, design of residential slabs and footings to AS2870-1996, effect on adjacent structures.
Drainage and flood mitigation systems (38%):
Swinburne University of Technology | Higher Education Handbook 2002

- Optional components, effects on surrounding areas, community use of floodways, water quality issues, system overload, floodway and reticulated drainage design.

Overview of engineering materials applicable to residential building and services construction (24%).
- Comparison of principal characteristics of steel, timber, concrete, plastics as used for shallow foundations, precast pipes, building trusses.

References
SAA Loading Code Part 1: Dead and Live loads and load combinations.
Concrete Structures, Institution of Engineers, Australia, Australian Rainfall and Runoff 1997.

HES3120 Structural Design
12.5 Credit Points • 1 Semester • Hawthorn • Prerequisite: HES2120 & HES2148 • Teaching methods: Lectures 36 Hours, Tutorials 24 Hours, Laboratory Work 4 Hours. • Assessment: Examinations.
A subject in the Bachelor of Engineering (Civil) Bachelor of Engineering (Civil)/Bachelor of Arts and Bachelor of Engineering (Civil)/Bachelor of Business.

Aims & Objectives
- To introduce students to the structural design process.
- To help students develop a working knowledge of Australian standards commonly used in structural design.

Content
Structural design philosophies and loadings (8%).
- Design codes, drawings, planning and building permits, limit state and permissible stress design.

Loadings on structures, live and dead load code, other loading codes.
Reinforced concrete design (42%).
- Behaviour and design of reinforced concrete structures, limit state design requirements, durability, fire resistance, detailing of reinforcement.

Design and detailing of plain concrete, reinforced concrete beams and one way slabs, short columns, simple footings and retaining walls.

Design and testing of concrete mixes.
Steel design (42%).
- Behaviour and design of steel structures, principles, stability, design of tension members, compression members, beams, beam-columns and simple connections.

Timber design (8%).
- Behaviour and design of timber beams and columns.

References

HES3150 Geotechnical Engineering
12.5 Credit Points • 1 Semester • Hawthorn • Prerequisite: HES2155 & HES2148 • Teaching methods: Lectures 36 Hours, Tutorials 20 Hours, Laboratory Work 4 Hours. • Assessment: Examinations.
A subject in the Bachelor of Engineering (Civil) Bachelor of Engineering (Civil)/Bachelor of Business.

Aims & Objectives
To enable students to:
- Understand bearing capacity and the behaviour of shallow and deep foundations under load.

Estimate lateral earth pressures on retaining structures.
- Understand the compaction of materials for strength and construction purposes.
- Understand the seepage or water flow through soils.

Analyse slope stability.
- Recognise simple design and construction technology for retaining walls, deep foundations and dam/embankment construction.

Content
Lateral earth pressures (15%).
- Earth pressure theory for rigid retaining walls.
- Stability and sizing of retaining walls.
- Sheet pile walls.
- General design factors for retaining walls to Australian Standards.
- Shallow foundations (30%).
- Bearing capacity theory to include various methods of calculations.
- Eccentric loading, inclined loading, factor of safety (nett and gross).

Effect of water table, layered soils, sloping ground.
- Combined footings and site investigation for shallow foundation.

Deep foundations (15%).
- Selection and size of single pile and pile group deep foundations.
- Settlement and consolidation of deep foundations.
- Site investigation for deep foundations.

Earth dam/embankment construction (20%).
- General principles of compaction, laboratory compaction, field compaction.

Relevance of compaction to road and dam construction.
- Water flow through soil.

Seepage and protection from erosion and overtopping.
- Cutoff and sealing dams.

Slope stability (20%).

Factor of safety versus embankment construction or excavation.
- Field measurements for monitoring slopes.

Site investigation for slope stability.

References

HES3300 Industry-based Learning
50 Credit Points • 1 Semester • Hawthorn • Prerequisite: Completion of 5 semesters.
A subject in the Bachelor of Engineering (Mechanical), Bachelor of Engineering (Manufacturing), Bachelor of Engineering (Product Design) and Bachelor of Engineering (Robotics & Mechatronics).

Aims & Objectives
To develop an understanding of the operational behaviour of a wide range of control systems.
- To develop the ability to determine a system’s transfer function and performance characteristics using theoretical and experimentally derived data.
- To develop the ability to apply classical linear control theory in designing systems and improving steady state and dynamic performance.
- To determine transfer functions from response-data for systems having a single input and output.

Content
Modelling and performance of control systems (8%).
- Overview of on/off and continuous control of mechanical, thermal and chemical systems.
- Physical relationships of basic components.
- Transfer functions.
- Block diagrams and their reduction.
- Overall system transfer function.
- Fluid power control (24%).
  - Hydraulic and pneumatic components and circuit design.
  - Design of on/off and electro-hydraulic systems.
- Dynamic characteristics.
- Dynamic response (32%).
  - Time response - classical solution and Laplace transforms, transient response and steady-state error.
  - Dominant poles and Root Locus transforms.
- Frequency response - Bode diagrams.
- Stability analysis in time and frequency domain.
- Experimental methods (8%):
  - Determination of transfer functions and stability.
- Design and compensation (24%):
  - Improve steady state and dynamic performance using compensation techniques.
- References

### HES3350 Machine Design

12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: Completion of 1st Year plus HET3120 • Teaching methods: Lectures 36 Hours, Tutorials, Projects 24 Hours. • Assessment: Assignments, Examinations.

- A subject in the Bachelor of Engineering (Mechanical), Bachelor of Engineering (Mechanical)/Bachelor of Arts, Bachelor of Engineering (Mechanical)/Bachelor of Business, Bachelor of Engineering (Product Design Engineering), Bachelor of Engineering (Robotics & Mechatronics) and Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Applied Science (Computer Science & Software Engineering).

#### Aims & Objectives
- To develop skills in the art of machine component design through design assignments.
- To develop the ability to perform design analysis with sufficient depth to enable innovation.
- To develop the ability to creatively design quality products for a sustainable environment.

#### Content
- Introduction to design (8%):
  - Course aims.
  - Course structure.
  - Relationship with other subjects.
  - Design as an applied subject.
- The role of analytical techniques in design.
- Introduction to design modelling.
- Belts and chain drives (8%):
  - Flat, vee, and toothed belts.
  - Roller and toothed chains.
- Clutches and brakes (8%):
  - Disk, drum and band brakes.
  - Disk and cone clutches.
- Sliding bearings (8%):
  - Viscosity.
  - Petroff’s equation.
  - Thin film flow.
  - Hydrostatic bearings.
  - Hydrodynamic bearing theory.
  - Tapering pad and thrust bearings.
- Cams (8%):
  - Cam terminology.
  - Output functions.
  - Cam design, profiles, sizing, manufacture, followers.
- Tolerances (8%):
  - Tolerances for assembly.
  - Statistical tolerancing.
  - Tolerance build-up.
- Energy storage (8%):
  - Mechanical energy storage: elasticity and deflection, inertia.
  - Design, selection and application of torsion bars, helical and leaf springs.
  - Design for impact: absorbing energy, impact.
- Fasteners and joints (8%):
  - Threaded fasteners: types, capacity, selection, installation.
  - Joints and gaskets: types of seal, gaskets and fastening stresses.
  - Rivets, welding and bonding: selection, stress and fatigue considerations.

#### Textbook

### References
HES3380  Human Factors

12.5 Credit Points  • 1 Semester  • 60 Hours  • Hawthorn  • Prerequisite: Completion of 1st Year  • Teaching methods: Lectures 36 Hours, Tutorials 16 Hours, Laboratory Work 8 Hours  • Assessment: Assignments, Examinations, Pracs.

A subject in the Bachelor of Engineering (Mechanical), Bachelor of Engineering (Mechanical)/Bachelor of Arts, Bachelor of Engineering (Mechanical)/Bachelor of Business, Bachelor of Engineering (Robotics & Mechatronics) and Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Applied Science (Computer Science & Software Engineering).

Aims & Objectives

• Team skills through group projects.
• To introduce the fundamental principles of ergonomics (human factors).
• To develop an understanding of the nature and application of ergonomics.
• To introduce workplace health and safety legislation requirements.
• To achieve awareness of ergonomics, as preparation for IBL (Industry-based Learning).

Content

Ergonomic Fundamentals (8%):
• Introduction to the science of ergonomics, ergonomic models and systems approach.

Human interaction with Physical Environments (18%):
• Noise and hearing: Function of the ear, principles of sound, standards and Codes of Practice.
• Sight and illumination: function of the eye, principles and units of light, and use of standards.
• Vibration: effect of vibration on human beings, methods of improvement and use of standards.

Functional Anatomy and human Interaction with the workplace (16%):
• Functional description of musculoskeletal structure of the human body and human performance.
• Introduction to anthropometry and biomechanics, and application to work and workplace design.

Introduction to task evaluation and workplace design principles (16%):
• Manual handling problems, use of regulations and codes of practice, case studies.
• Use of screen-based equipment including keyboards, monitors and furniture.

Health and safety practices (16%):
• Overview of safety management methods and introduction to risk management principles.
• Health and safety legislation.
• Physical safety.
• Hygiene factors.

Engineering Psychology (16%):
• Cognitive processing concepts, reaction time, psychophysics and signal detection theory.
• Controls and displays, and use of screen based equipment.

Laboratory work (8%).

References


As suggested by the Swinburne academic supervisor to support the student's task.

Work requirements are established by the employer in consultation with Swinburne.

Content

To understand and apply quality control and assurance techniques.

To establish and refine personal development skills in order to develop competence towards the professional level.

To implement and gain further understanding of management skills and practices operating within organisational structures.

To observe and appreciate significant trends in employment work groups and industrial relations.

To understand and apply quality control and assurance techniques.

Aims & Objectives

- To complete 24 weeks of full-time paid employment in an appropriate industrial setting.
- To work as a trainee under the direction of a professional and be an effective part of a multi-disciplinary team.
- To develop and document professional practice for all assignments and to communicate professionally in written and oral forms.
- To develop and document professional practice for all assignments and to communicate professionally in written and oral forms.
- To establish and refine personal development skills in order to develop competence towards the professional level.
- To implement and gain further understanding of management skills and practices operating within organisational structures.
- To observe and appreciate significant trends in employment work groups and industrial relations.
- To understand and apply quality control and assurance techniques.

Content

Work requirements are established by the employer in consultation with Swinburne staff.

References

As suggested by the Swinburne academic supervisor to support the student's task environment.

HES3505 Industry-based Learning

50 Credit Points • 1 Semester • Full-time employment in industry for 24 weeks • Hawthorn • Prerequisite: All Year 1 & 2 subjects • Teaching methods: Industrial Practice, Industry supervision, Academic supervision • Assessment: Satisfactory achievement of employer requirements. Satisfactory report covering the period of Industry-based Learning experience.

A subject in the Bachelor of Applied Science (Biochemistry/Chemistry), Bachelor of Applied Science (Biochemistry/Chemistry)(Honours), Bachelor of Science (Biotechnology), Bachelor of Applied Science (Chemistry), Bachelor of Applied Science (Chemistry)(Honours) and Bachelor of Applied Science (Psychology/Biochemistry).

Aims & Objectives

- To complete 24 weeks of full-time paid employment in an appropriate industrial setting.
- To work as a trainee under the direction of a professional and be an effective part of a multi-disciplinary team.
- To develop and document professional practice for all assignments and to communicate professionally in written and oral forms.
- To establish and refine personal development skills in order to develop competence towards the professional level.
- To implement and gain further understanding of management skills and practices operating within organisational structures.
- To observe and appreciate significant trends in employment work groups and industrial relations.
- To understand and apply quality control and assurance techniques.

Content

Work requirements are established by the employer in consultation with Swinburne staff.

References

As suggested by the Swinburne academic supervisor to support the student's task environment.

HES3515 Industry-based Learning

50 Credit Points • 1 Semester • Hawthorn • Prerequisite: All second year subjects • Assessment: Report.

A subject in the Bachelor of Applied Science (Chemistry/Honours), Bachelor of Applied Science (Biochemistry/Chemistry/Honours).

HES3680 Bioprocess Engineering Principles

12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: Substantial completion of second year • Teaching methods: Lectures, Tutorials, Laboratory • Assessment: Assignments, Examinations.

A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Business and Bachelor of Engineering (Biotechnology)/ Bachelor of Science (Biotechnology).

Aims & Objectives

- To apply fundamental engineering principles such as material and energy balances, fluid dynamics and transport phenomena to analyse processes using biocatalysts.
- To develop an appreciation of the application of the same engineering principles to a variety of industrial bioprocessing problems.
- To develop an appreciation of the application of the same engineering principles to a variety of industrial bioprocessing problems.
- To develop an appreciation of the application of the same engineering principles to a variety of industrial bioprocessing problems.

Content

- Stoichiometry of microbial growth and product formation: elemental balances, degree of reduction, yield coefficients.
- Material balances: law of conservation of mass, material balances with recycle, bypass and purge systems.
- Energy balances: basic energy concepts, enthalpy calculations, enthalpy change in non-reactive process, enthalpy change due to reaction, thermodynamics of microbial growth, energy balance for cell culture.
- Enzyme kinetics: mechanistic models for simple enzyme kinetics, enzyme inhibition, substrate inhibition, effects of pH and temperature, diffusional limitations in immobilised enzyme systems.
- Microbial growth kinetics: batch growth kinetics, unstructured non-segregated growth models, kinetics of continuous culture.
- Fluid flow: fluid in motion, Reynolds number, hydrodynamic boundary layers, viscosity, momentum transfer, non-Newtonian fluids, viscosity measurement, rheological properties of fermentation broths.
- Mixing: flow patterns in agitated tanks, mechanism of mixing, power requirements for mixing, scale-up of mixing systems, role of shear in stirred fermenters, bubble shear.
- Mass Transfer: role of diffusion in bioprocessing, convective mass transfer, oxygen uptake in cell cultures, oxygen transfer from gas bubble to cell, oxygen transfer in fermenters, mass transfer correlations.
- Heat Transfer: mechanisms of heat transfer, heat transfer between fluids, designs equations for heat transfer systems, sterilisation, batch and continuous heat sterilisation of liquids, sterilisation of air.

References


HES3700-3705 Industry-based Learning

50 Credit Points • 48 Weeks • Hawthorn • Prerequisite: All subjects in Years 1 & 2 • Teaching methods: Professional practice at the placement. Placement supervision. Swinburne academic supervision. • Assessment: Report.

A subject in the Bachelor of Health Science (Environmental Health Management) and Bachelor of Health Science (Public and Environmental Health).

Aims & Objectives

- To complete 48 weeks of full-time paid employment in an environmental health setting.
- To complete 48 weeks of full-time paid employment in an environmental health setting.
- To complete 48 weeks of full-time paid employment in an environmental health setting.
- To complete 48 weeks of full-time paid employment in an environmental health setting.

References

Aims & Objectives

- To complete 24 weeks of full-time paid employment in an appropriate industrial setting.
- To work as a trainee under the direction of a professional and be an effective part of a multi-disciplinary team.
- To develop and document professional practice for all assignments and to communicate professionally in written and oral forms.
- To establish and refine personal development skills in order to develop competence towards the professional level.
- To implement and gain further understanding of management skills and practices operating within organisational structures.
- To observe and appreciate significant trends in employment work groups and industrial relations.
- To understand and apply quality control and assurance techniques.

Content

Work requirements are established by the employer in consultation with environmental health staff of the University.

References

As suggested by the academic and placement supervisors to support the student’s progress and professional development.

**HES4000 Industry-based Learning**

50 Credit Points  •  1 Semester  •  Hawthorn  •  Prerequisite: All subject of first, second & third years  •  Teaching methods: Industrial practice, Industry supervision, Academic supervision  •  Assessment: Satisfactory achievement of employer requirements  
Satisfactory report covering the period of Industry-based Learning experience.

Bachelor of Engineering (Chemical & Bioprocess), Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Business, Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology).

Aims & Objectives

- To complete 24 weeks of full-time paid employment in an appropriate industrial setting.
- To work as a trainee under the direction of a professional and be an effective part of a multi-disciplinary team.
- To develop and document professional practice for all assignments and to communicate professionally in written and oral forms.
- To establish and refine personal development skills in order to develop competence towards the professional level.
- To implement and gain further understanding of management skills and practices operating within organisational structures.
- To observe and appreciate significant trends in employment work groups and industrial relations.
- To understand and apply quality control and assurance techniques.

Content

Work requirements are established by the employer in consultation with Swinburne staff.

References

As suggested by the Swinburne academic supervisor to support the student’s task environment.

**HES4100 Industry-based Learning**

50 Credit Points  •  1 Semester  •  Hawthorn  •  Prerequisite: Completion of 5 semesters.

A subject in the Bachelor of Engineering (Civil).

**HES4115 Civil Engineering Applications**

12.5 Credit Points  •  1 Semester  •  72 Hours  •  Hawthorn  •  Prerequisite: HES3110

Teaching methods: Lectures 48 Hours, Tutorials 24 Hours  •  Assessment: Assignments, Examinations.

A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Arts, Bachelor of Engineering (Civil)/Bachelor of Business.

Aims & Objectives

- To introduce students to environmental concepts and natural systems.
- To develop an understanding of the environmental effects of construction practices, and construction site management required to control such effects.
- To develop an understanding of town planning and its operation.
- To develop engineering principles and design applications relevant to property services.
- To develop problem solving and teamwork skills through group work on a substantial project.

Content

Introduction to the environment (16%):
- Sustainability and diversity, natural cycles and systems, green, global and local environmental impacts.

Environmental effects of construction (8%):
- Sources, effects of erosion and sediments, noise, vibration, air and water pollution, solid waste, monitoring, standards and regulation (including water quality).

Site management (15%):
- Site establishment, site control of pollutants, traffic management.

Property services (45%):  
- Drainage, water supply, fire fighting, sewage.
- Town Planning & Environmental Planning (16%).

Introduction to planning in Victoria, planning schemes, environmental effects statements.

References

EPA (Vic), Construction Techniques for Sediment Pollution Control, 1991.
EPA (Vic) et al., Best Practice Environmental Guidelines for Urban Stormwater Previous Student Investigations.

**HES4125 Structural Engineering Applications**

12.5 Credit Points  •  1 Semester  •  6 Hours per Week  •  Hawthorn  •  Prerequisite: HES3120 or CE217 Structural Engineering 1 and CE316 Structural Design 1  •  Teaching methods: Lectures 36 Hours, Tutorials 18 Hours, Laboratory Work 6 Hours  •  Assessment: Examination (70%) and two Projects each 15%.

A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Arts, Bachelor of Engineering (Civil)/Bachelor of Business.

Aims & Objectives

After completing this subject students will:
- Have developed further their understanding of the structural design process and practice.
- Have developed a working knowledge of Australian standards AS1170.2, AS3600 and AS4100.

Students will also be able to:
- Determine wind loading on simple structures.
- Design and detail reinforced concrete two way slabs systems, long columns and stairs, cast in-situ walls and combined footings.
- Design tilt-up concrete structures.
- Design simple steel structures including aspects of fabrication, erection, corrosion, resistance to lateral loads, bracing systems and connections.

Content
- Wire loading on structures: introduction to wind loading and the use of the wind code.
- Reinforced concrete design: design and detailing of two way slabs, two way slab systems and with and without drop panels, long columns under uniaxial and biaxial bending, design of stairs, cast-in-situ walls, combined footings.
- Design of pre-cast concrete: design and construction of tilt-up concrete walls. Planning, floor slab, foundations, panel layout, bracing and connections.
- Steel design: fabrication, erection, corrosion, resistance to lateral loads, bracing systems, design of plate fenders, design of portal frames including analysis and design of connections.

References

Students must have access to the following codes:
- AS3600 SAA Concrete Structures (1998).
- AS4600 SAA Cold-formed steel structures (1998).
- AS3740 SAA Composite Structures (1994).
- AS4100 SAA Steel Structures (1998).
- Or Handbook 2.2 Structural Engineering 1998.

Content
- Structural analysis of skeletal frames using the stiffness method of analysis.
- Using Spacegass.
- Stress analysis of structures - including torsion.
- Cold formed steel structures.
- Composite beams.
- Design for fire.
- Unreinforced and reinforced masonry.
- Prestress concrete.
- Timber design.

References
- AS4600 SAA Cold-formed steel structures (1998).

Aims & Objectives
- To examine different measures of level of service and demonstrate understanding by identifying appropriate LOS for a variety of civil engineering works.
- To examine techniques for the management of service provision by engineering infrastructure and their relationships in a system of infrastructure management.
HES4280 Manufacturing Technology 1

12.5 Credit Points • 1 Semester • 72 Hours • Hawthorn • Prerequisite: Completion of Intermediate studies • Teaching methods: Lectures 48 Hours, Laboratory 24 Hours. • Assessment: Assignments, Examinations.

A subject in the Bachelor of Engineering (Manufacturing) and Bachelor of Engineering (Product Design).

Aims & Objectives

To develop the knowledge of processes used in the manufacture of sheet and bulk formed metal, manufacture of plastic products and machined components.

To develop awareness and skills in the analysis of process parameters in order to achieve quality and productivity in the application of metal forming and polymer processes.

Content

Metal forming processes (48%):

- Review of plasticity theory of metals, mathematical modelling of metal forming.
- Slip line field.
- Upper bound approaches to bulk forming.
- Sheet metal forming processes: applications, process parameters and calculations.
- Bulk forming processes: applications, process parameters and work solutions.
- Manufacture of polymeric products (32%).
- Rheological equations of state for ideal-elastic and solid Hookean materials, Newtonian fluids, Non-Newtonian fluid flow, variation of viscosity, composite materials.
- Blow moulding: output die requirements, parisons dimensions, swelling considerations.
- Film moulding: output die requirements, pinions dimensions, swelling considerations.
- Printing technologies.
- Advanced material selection (8%).
- Exploring material choices using a systematic approach (Ashby) to obtain the optimum subset of materials and processes.
- Laboratory experiments (8%).
- Metal Extrusion, Plastic Extrusion.

References


HES4300 Industry-based Learning

50 Credit Points • 1 Semester • Hawthorn • Prerequisite: Completion of 5 semesters plus 1st semester of IBL.

A subject in the Bachelor of Engineering (Mechanical), Bachelor of Engineering (Manufacturing), Bachelor of Engineering (Product Design) and Bachelor of Engineering (Robotics & Mechatronics).

HES4330 Thermodynamics 2

12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HES2230 • Teaching methods: Lectures 36 Hours, Tutorials, Projects 24 Hours. • Assessment: Assignments, Examinations, Project(s).
A subject in the Bachelor of Engineering (Mechanical), Bachelor of Engineering (Mechanical)/Bachelor of Arts, Bachelor of Engineering (Mechanical)/Bachelor of Business.

**Aims & Objectives**
- To enhance understanding of nozzles, rotodynamic machinery, heat pumps, psychrometry, heat transfer and numerical heat transfer with computer applications.
- To develop an appreciation of the design principles in thermo-fluid systems.
- To develop the ability to analyse existing thermo-fluid systems and contribute to new designs.

**Content**
- Nozzles and Jet Propulsion (16%):
  - Nozzle shape.
  - Critical pressure ratio.
  - Maximum mass flow.
  - Off-design performance.
  - Nozzle efficiency.
  - Steam nozzle.
  - Stagnation.
  - Jet propulsion.
- Rotodynamic Machinery (16%):
  - Rotodynamic machines for steam and gas turbine plant.
  - Impulse steam turbines.
  - Pressure and velocity compounded turbines.
  - Axial-flow reaction turbines.
  - Losses in turbines.
  - Axial-flow compressors.
  - Overall efficiency.
  - Stage efficiency.
  - Reheat factor.
  - Polytropic efficiency.
  - Centrifugal compressors.
  - Radial-flow turbines.
- Refrigeration and Heat Pumps (8%):
  - Reversed heat engine cycles.
  - Vapour compression cycles.
  - Refrigerating load.
  - Pressure-enthalpy diagrams.
  - Compressor types.
  - Use of flash chamber.
  - Vapour absorption cycles.
  - Gas cycles, liquefaction of gasses.
  - Steam-jet refrigeration.
  - Refrigerants and control.
- Psychrometry and Air-conditioning (16%):
  - Psychrometric mixtures.
  - Conditioning systems.
  - Cooling towers.
- Heat Transfer (24%):
  - Fourier’s law of conduction.
  - Newton’s law of cooling.
  - Composite systems.
  - Electrical analogy.
  - General conduction equation.
  - Numerical methods for conduction.
  - Two-dimensional steady conduction.
  - One-dimensional transient conduction.
  - Forced convection, free convection.
- Lumped systems analysis.
- Heat exchangers, heat exchanger effectiveness.
- Extended surfaces.
- Black-body radiation, grey body.
- Stefan-Boltzmann law.
- Lambert’s law.
- Radiant interchange.
- Heat transfer coefficient for radiation.
- Gas radiation.
- Numerical heat transfer.

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**References**

**HES4350 Mechanical Systems Design**
12.5 Credit Points  •  1 Semester  •  60 Hours  •  Hawthorn  •  Prerequisite: HES3250  •  Teaching methods: Lectures 36 Hours, Projects, Tutorials 24 Hours.  •  Assessment: Assignments, Examinations, Oral Presentation, Poster.
A subject in the Bachelor of Engineering (Mechanical), Bachelor of Engineering (Mechanical)/Bachelor of Arts and Bachelor of Engineering (Mechanical)/Bachelor of Business.

**Aims & Objectives**
- To develop mechanical design skills applied to more complex and diverse engineering systems.
- To develop an appreciation of system design principles in both engineering and nature.
- To develop the ability to estimate the risk and reliability of mechanical systems.
- To gain an understanding of vehicle design through examples from industry.

**Content**
- Introduction to systems engineering (8%):
  - Design process.
  - Design specifications.
  - Engineering requirements.
  - Design targets and value analysis.
  - Australian and international standards.
  - Codes of practice and regulations.
  - Introduction to system modelling.
- Risk Engineering (8%):
  - Introduction to risk engineering.
  - Risk and loss prevention measures.
  - Effects on product design, use and occupational health and safety.
- System Reliability (8%):
  - Reliability and maintainability.
  - Instantaneous failure rates and hazard rates.
  - Fault and event trees.
  - Series, parallel & standby systems.
  - Planned maintenance.
  - Condition monitoring.
- Thermal Systems (8%):
  - Idealized systems, working fluids, load estimation, energy balance.
  - Thermo-fluid system models.
  - Assessment of commercial viability.
- Motive Power Systems (8%).
• Characteristics of motors and loads.
• Matching.
Power Transmission and Storage Systems (8%):
• Mechanical, hydraulic and electrical transmissions: characteristics and losses, practical design.
• Energy storage and conservation.
Fluidic Systems (8%):
• Fluid power systems, design characteristics of hydraulic and pneumatic systems, linear actuators, pumps, valves and motors.
• Operational cycles.
Pressure Vessels (8%):
• Pressure vessel design, AS 1210 Unfired Pressure Vessel Code, design aspects.
• Computations and submission to authorities.
Industrial noise control (16%):
• Fundamental concepts.
• Propagation and dissipation of sound.
• Control of noise at the source, along the path and at the receiver.
• Industrial and commercial silencing.
Vehicle Design (16%):
• Drive train layouts, chassis, suspension, engine selection.
• Lectures by engineers from industry on selected system design topics.

References
Buley, M., Industrial Noise Control, (Class notes), Swinburne University of Technology.

HES4500 Chemistry 5
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: HES2500, HES2505 • Teaching methods: Lectures 4 Hours per Week, oral presentation.
• Assessment: The first four topics are worth 25% and all topics will have an examination. The oral presentation must be completed satisfactorily.
A subject in the Bachelor of Applied Science (Biochemistry/Chemistry), Bachelor of Applied Science (Biochemistry/Chemistry)(Honours), Bachelor of Applied Science (Chemistry), Bachelor of Applied Science (Chemistry)(Honours).

Aims & Objectives
• To predict the NMR and MS spectra of organic compounds and deduce structural information from spectra.
• To study the general principles of surface and colloid chemistry, by reference to the properties and applications of liquid surfaces and interfaces.
• To study the principles and technological applications of electrochemistry.
• To understand the relationship between structure and properties.
• To develop competence and confidence in oral presentations.

Content
• Nuclear Magnetic Resonance (NMR) and Mass Spectroscopy (MS).
• Principles of NMR.
• PMR chemical shifts, areas, and first order splitting patterns.
• Analysis of PMR spectra.
• Complications in PMR spectra.
• FT instrumentation (IR and NMR).
• Analysis of CMR spectra.
• Principles of MS.
• MS instrumentation.
• Interpretation of mass spectra.
Surface Chemistry:
• Colloidal systems and surface active molecules.
• Surface tension, the vapour pressure of drops and bubbles.
• Orientation at interfaces and spreading of one liquid upon another.
• Adsorption at interfaces.
• Insoluble monolayers.
• Contact angle and wetting.
• Adsorption from solution at the solid-liquid interfaces.
Stereochemistry and Molecular Modelling:
• Steric representations.
• Definitions of terms related to molecular geometry.
• Conformational properties of molecules.
• Configurations.
• Conformational analysis.
• Stereochemical effects in organic reactions.
• Selectivity, prochirality, topiety.
• Current topics.
Other subjects to be announced.

References
Crawford, R., Surface Chemistry (printed notes), Swinburne Press.
Bowater, I.C., NMR and MS (printed notes), Swinburne Press.
Wong, M.G., Stereochemistry (printed notes), Swinburne Press.

HES4505 Chemistry 6
12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: HES2500, HES2505 • Teaching methods: Lectures 4 Hours per Week, assignment work.
• Assessment: Each topic, except for the literature search, is worth 25%. Literature searching assignment must be satisfactorily completed to qualify for a pass in the subject. One or two topics will be examined during the semester.
A subject in the Bachelor of Applied Science (Biochemistry/Chemistry), Bachelor of Applied Science (Biochemistry/Chemistry)(Honours), Bachelor of Applied Science (Chemistry), Bachelor of Applied Science (Chemistry)(Honours).

Aims & Objectives
• To provide the theoretical background and understanding and relevant applications in four relevant areas of chemistry which are new to students.
• To become proficient at finding scientific information using computer searching.
• To write a critical report on a recent development in science.

Content
Colloid chemistry (25%):
• The development and characterisation of particle charge and its relevance to dispersion and emulsion stability.
• Relevance of particle size and particle charge to chemical and biochemical processing.
Ion Exchange and Solvent Extraction (25%):
• Ion exchange types, the process, effects of pH and capacity.
• Applications: water softening, deionisation, Sirotherm, suppressed and single-column high performance ion chromatography.
• Solvent extraction of drugs and chelated metals.
• Supercritical Fluid Extraction and Accelerated Solvent Extraction.
Coordination Chemistry (25%):
• Structure, nomenclature and applications of coordination compounds.
• Isomerism and structure determination.
• Bonding theories.
• Application of crystal field theory to explain spectra and spectrochemical series, magnetic properties, thermodynamic stability, structural distortions and kinetic stability.
• Analytical and biochemical applications.
Advanced Organic Chemistry (25%):
• Heterocyclics.
• Nomenclature.
• Five and Six membered aromatic heterocycles.
• Reactions and synthesis.
• Applications to medical and pharmaceutical industry.
• Rearrangements.
• Literature Searching.
Aims & Objectives

To develop problem solving skills by attempting to identify compounds from experimental data and spectra.

To do experiments without being given detailed instructions for all of the steps involved.

To plan experiments to achieve stated goals and validate the results.

Content

- Qualitative analysis of an unknown liquid mixture using distillation, physical measurements, infrared spectra, PMR spectra, CMR spectra and mass spectra.
- Synthesis and characterisation of an optically active compound.
- Qualitative analysis using infrared data handling software.
- Determination of the CMC of a surfactant.
- Qualitative analysis using an ion specific electrode.

Experimental Design and Data Processing:

- Sources of error.
- Goals of experiment.
- Planning to achieve goals.
- Validation procedures.
- Data treatment and presentation.
- Analysis of the data using common sense and statistical tests.

References

Harding, I.H., Colloid Science (printed notes), Swinburne Press.

Bowater, I.C., NMR and MS (printed notes), Swinburne Press.


Stenic representations, definitions of terms related to molecular geometry, stereochemistry.

Nuclear Magnetic Resonance (NMR) and Mass Spectroscopy (MS):

- Principles of NMR.
- PMR chemical shifts, areas, and first order splitting patterns.
- Analysis of PMR spectra.
- Complications in PNIR spectra.
- FT instrumentation (IR and NMR).
- Analysis of CMR spectra.
- Principles of MS.
- MS instrumentation.
- Interpretation of mass spectra.

Colloid Chemistry:

- Characterisation of nanoparticles - particle size and surface charge.
- The nature and stability of dispersions, emulsions and foams.
- Coagulation and flocculation.
- Bio-colloids - liposomes, vesicles, bacteria and viruses - their physical properties, structure and colloidal characterisation.
- Applications of colloid systems, e.g. drug delivery.
- The measurement of surface charge and particle size.
- How to make and how to destroy a dispersion.

Computers in Chemistry:

- Data access using the World Wide Web, including bioinformatics and access to relevant databases.
- Creation of organic diagrams.
- Prediction of pH, end points.
- Statistical treatment of chemical data using Excel.
- Errors, normal distribution, confidence limits, significance tests, lines and curves of best fit and quality control charts.
- Methods of noise reduction.

References


Harding, I.H., Colloid Chemistry (printed notes), Swinburne Press.


HES4510 Practical & Professional Skills 5

12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: HES2510, HES2515, HES2500, HES2505 • Teaching methods: Laboratory class 4 Hours per Week, Lectures - Experimental design 1 Hour per Week. • Assessment: Oral Presentation, Report.

A subject in the Bachelor of Applied Science (Chemistry) and Bachelor of Applied Science (Harper). A subject in the Bachelor of Applied Science (Biotechnology)/Bachelor of Science (Biotechnology).

Aims & Objectives

- To do experiments without being given detailed instructions for all of the steps involved.
- To develop problem solving skills by attempting to identify compounds from experimental data and spectra.
- To plan experiments to achieve stated goals and validate the results.

Content

- Sources of error.
- Goals of experiment.
- Planning to achieve goals.
- Validation procedures.
- Data treatment and presentation.
- Analysis of the data using common sense and statistical tests.

References

Harding, I.H., Colloid Chemistry (printed notes), Swinburne Press.
conformational organic properties of molecules, configurations and conformational analysis. Stereochimical effects in organic reactions. Selectivity, prochirality, topicity, current topics.

Molecular Modelling:
The study of the geometry and properties of molecules by computer aided techniques.

References
The references for each topic will be advised by the lecturer concerned.

HES4620 Biochemistry 3
12.5 Credit Points • 1 Semester • Hawthorn • Prerequisite: HES2620, HES2625.
A subject in the Bachelor of Applied Science (Biochemistry/Chemistry), Bachelor of Applied Science (Biochemistry/Chemistry)(Honours) and Bachelor of Applied Science (Psychology/Biochemistry).

HES4621 Advanced Biochemistry
12.5 Credit Points • 1 Semester • 80 Hours • Hawthorn • Prerequisite: HES2620, HES2625 • Teaching methods: Lectures, set exercises, selected web resources. • Assessment: Examination 80%, Test 20%.
A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Business, Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Science (Biotechnology), Bachelor of Science (Biotechnology)/Bachelor of Business and Bachelor of Science (Biotechnology)/Bachelor of Arts (Media & Communications).

Aims & Objectives
The aim is to provide students with a depth of knowledge of a number of selected topics in biochemistry that will relate to and build upon the foundations laid in second year subjects. Two themes are explored: biochemistry of human diseases and the techniques that underpin the developments of molecular biology and biotechnology.

Content
Human Biochemistry:
- Biochemical basis of selected functions (e.g. exercise, metabolic regulation).
- Biochemical basis of certain diseases (e.g. AIDS), clinical biochemistry.

Psychobiochemistry:
- Neurotransmitters and psychopharmacology.
- Impact on mood disorders and diseases.

Neurodegenerative diseases:
- Alzheimer’s disease, Parkinson’s disease.
- Huntington’s chorea etc.
- Genetic engineering of microbes, plants and mammalian cells – methodology and applications, recombinant protein production, directed mutagenesis and protein engineering, transgenic animals.
- Functional and Structural Genomics, Proteomics and related Bioinformatics.
- Ethical Issues related to biotechnology.
- Environmental roles of biotechnology, sustainable development, bioremediation and biomass utilisation.
- Downstream processing.
- Immunology and Immunochemistry and their applications in chemical and biochemical analyses.
- Spectroscopic analytical methods including NMR and advances in mass spectrometry, ultra-fast laser spectroscopy, MRI and other imaging methods.
- Contemporary techniques in Biochemistry e.g. laser confocal microscopy, biochips, microarrays and combinatorial arrays, nanotechnology and molecular motors.
- Patenting and protection of ideas.

References

HES4640 Practical Biochemistry 3
12.5 Credit Points • 8 Weeks • 8 Hours per Week • Hawthorn • Prerequisite: HES2620, HES2625 • Teaching methods: Practical classes following written protocols. Report writing guidelines. Practical talks by demonstrators. • Assessment: Practical reports and a small component of demonstrator assessment.
A subject in the Bachelor of Applied Science (Biochemistry/Chemistry), Bachelor of Applied Science (Biochemistry/Chemistry)(Honours), Bachelor of Applied Science (Psychology/Biochemistry), Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Science (Biotechnology)/Bachelor of Business, Bachelor of Science (Biotechnology)/Bachelor of Arts (Media & Communications).

Aims & Objectives
The first aim is to have students become competent in the basic experimental techniques of biochemistry and molecular biology including use of vertical and flat bed gel apparatus, spectrophotometers with data acquisition and analysis by computer, spectrofluorimetry, various centrifuges including the ultracentrifuge. Students work in pairs with minimal supervision and are encouraged to solve their own problems of technique. The second aim is to have students become competent in data organisation, presentation and report writing.

Content
A number of experimental exercises including sulphhydril analysis, peptide sequencing, gel electrophoresis of proteins and nucleic acids, preparation and analysis of plasmid DNA, cell fractionation and enzyme assays. Instrumentation used includes centrifuges, electrophoresis apparatus, spectrophotometer, spectrofluorimeter, image capture devices.

References
Specific references, websites.

HES4625 Biochemistry 4
12.5 Credit Points • 1 Semester • Hawthorn • Prerequisite: HES2620, HES2625.
A subject in the Bachelor of Applied Science (Biochemistry/Chemistry), Bachelor of Applied Science (Biochemistry/Chemistry)(Honours) and Bachelor of Applied Science (Psychology/Biochemistry).

HES4626 Biotechnology
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HES2620, HES2625.
A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Science (Biotechnology), Bachelor of Science (Biotechnology)/Bachelor of Business and Bachelor of Science (Biotechnology)/Bachelor of Arts (Media & Communications).
Aims & Objectives

The first aim is to have students become competent in the basic experimental techniques of biochemistry and molecular biology including use of vertical and flat bed gel apparatus, spectrophotometers with data analysis and analysis by computer, spectrofluorimetry, and various centrifuges including the ultracentrifuge. Students work in pairs with minimal supervision and are encouraged to solve their own problems of technique. The second aim is to have students become competent in data organisation, presentation and report writing.

Content

A number of experimental exercises including sulphydryl analysis, peptide sequencing, gel electrophoresis of proteins and nucleic acids, preparation and analysis of plasmid DNA, cell fractionation and enzyme assays. Instrumentation used includes centrifuges, electrophoresis apparatus, spectrophotometer, spectrofluorimeter, image capture devices.

References


Specific references to the literature where given.

HES4645 Science Research Project

12.5 Credit Points • 1 Semester • 40 Hours laboratory work 20 Hours of library research report writing and seminar presentation.  Hawthorn  Prerequisite: HES2620, HES2625, HES4640 • Teaching methods: Self taught laboratory-based enquiry with academic supervisor giving guidance and direction where necessary. Students work in pairs. • Assessment: Written Report (joint report) 45%, Seminar Presentation 25%, Supervisor Assessment 30%

A subject in the Bachelor of Applied Science (Biochemistry/Chemistry), Bachelor of Applied Science (Psychology/Biochemistry).

Aims & Objectives

The aim is to allow students to develop laboratory based enquiry skills in a relatively unstructured environment, using the techniques acquired in first semester (HES4640) to solve a problem or achieve a set aim. Students are expected to develop independence in experimental design and interpretation. The aims include the development of report organisation and seminar presentation using PowerPoint or web-based software.

Content

Lab-based biochemical research project.

References

Various research publications and reprints provided or given as references.

HES4646 Biotechnology Research Project

12.5 Credit Points • 1 Semester • 60 Hours  Hawthorn  Prerequisite: HES4640 • Teaching methods: 40 hours laboratory work, 20 hours of library research. Report writing and seminar presentation.  Assessment: Written Report (joint report) 45%, Seminar presentation 25%, Supervisor assessment 30%

A subject in the Bachelor of Science (Biotechnology), Bachelor of Science (Biotechnology)/Bachelor of Commerce, Bachelor of Science (Biotechnology)/Bachelor of Arts (Media & Communications), Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology).

Aims & Objectives

The aim is to allow students to develop laboratory based inquiry skills in a relatively unstructured environment, using the techniques acquired in first semester (HES4640) to solve a problem or achieve a set aim. Students are expected to develop independence in experimental design and interpretation. The aims include the development of report organisation and seminar presentation using PowerPoint or web-based software.

Content

Lab-based biochemical research project.

References

Various research publications and reprints provided or given as references.

HES4700 Research Skills

12.5 Credit Points • 1 Semester • 3 Hours per Week  Hawthorn  Prerequisite: HMS102 • Teaching methods: Lectures, Class Discussion  Assessment: Assignments, Tests.

A subject in the Bachelor of Health Science (Environmental Health Management) and Bachelor of Health Science (Public and Environmental Health).

Aims & Objectives

• To develop the skills necessary to undertake a research project.

• To assist the student in identifying appropriate research topics and methodologies.

Content

• Identification of proposed research topic, methodology and hypotheses.
• Research preparation: Problem formulation, research design, objectives and scope, ethics.
• Planning strategies, information sources, time management and team work.
• Research methodologies appropriate to the health sciences.
• Literature review: abstracting and paraphrasing, citations and bibliographies.
• Research presentation and follow up: layout, style, press release and follow up strategies.

References


HES4705 Research Project

12.5 Credit Points • 1 Semester • 4 Hours per Week  Hawthorn  Prerequisite: HES4700 • Teaching methods: Staff/student consultation  Assessment: Project Report.

A subject in the Bachelor of Health Science (Environmental Health Management) and Bachelor of Health Science (Public and Environmental Health).

Aims & Objectives

• To undertake a research project of relevance to environmental health.
• To provide for practical application of the research principles studied in earlier subjects.
• To develop teamwork and collaborative skills.
• To develop project management skills.

Content

Students undertake a program of research based on an environmental health topic of their choosing.

References

As required by the specific research project

HES4715 Health Planning and Promotion

12.5 Credit Points • 1 Semester • 4 Hours per Week  Hawthorn  Prerequisite: Nil • Teaching methods: Lectures, Group Work.  Assessment: Assignments, Group Work, Tests.

A subject in the Bachelor of Health Science (Environmental Health Management) and Bachelor of Health Science (Public and Environmental Health).

Aims & Objectives

• To introduce the concepts and strategies of health planning and promotion.
• To examine the social and cultural factors involved in health planning and promotion.
• To understand the education techniques available in health planning and promotion.
• To review current public health policies.

Content

• A review of the key concepts and strategies in community health, early identification, treatment, disease prevention and health promotion strategies.
• Social, cultural and psychological factors involved in health promotion and disease prevention behaviours.
• Health promotion programs.
• Opportunities, responsibilities for health educators.
• Multimedia health promotion strategies and techniques.
• Instructional techniques and communication skills for health educators, Needs Assessment Techniques (incorporates Category Two Workplace training and Assessor training).
• Program evaluation strategies, performance indicators.
• Public Health Plans.
• Examination and review of local, national and international health promotion and planning policies and programs.

References

Dignan, M., Cant, P., Program Planning for Health Education & Health Promotion, Lea and Febiger, 1987.
To understand the principles of safe work practices, and the rationale of safety.

Aims & Objectives
- To study major causes and effects of environmental pollution.
- To examine the dangers inherent in the use hazardous substances and control measures required to minimise or eliminate hazards.
- To study the effects of soil contamination and remedial measures available.

Content
- Basic ecology, ‘indicator’ organisms and their role in ecosystems.
- Nutrient cycles and the effects of imbalances.
- Biological effects of heavy metals contamination.
- Sewage treatment.
- Biological aspects of soil remediation.
- Hazardous substances and hazardous waste overview.
- Types of hazardous substances and associated environmental and health hazards including class labelling of dangerous goods, material safety data sheets, human and ecotoxicity, environmental chemical processes in the unpolluted environment (air, water and soil).
- Current environmental issues inc: greenhouse effect, ozone depletion, photochemical pollution, acid rain.
- Overview of Melbourne’s sewage and stormwater systems.
- Environment protection in Victoria.
- Industrial waste (trade waste, prescribed waste, priority waste) treatment and disposal.
- Contaminated sites including sources of contamination, organics, heavy metals.
- Site remediation including vapour extraction, bioremediation, stabilisation, soil washing, cap and contain, removal and disposal.
- Environmental auditing.
- Use of process flow diagrams.
- Simple process calculations.
- Disposal and dispersal of pollutants (air, water, and land).

References
Manahan, S.E., Hazardous Waste, Chemistry, Toxicology & Treatment, Chelsea Lewis, 1990.


HES4720 Environmental Management
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil •
Teaching methods: Lectures, Field Visits • Assessment: Assignments, Examinations, Tests.
A subject in the Bachelor of Health Science (Environmental Health Management) and Bachelor of Health Science (Public and Environmental Health).

Aims & Objectives
- To study major causes and effects of environmental pollution.
- To examine the dangers inherent in the use hazardous substances and control measures required to minimise or eliminate hazards.
- To study the effects of soil contamination and remedial measures available.

Content
- Basic ecology, ‘indicator’ organisms and their role in ecosystems.
- Nutrient cycles and the effects of imbalances.
- Biological effects of heavy metals contamination.
- Sewage treatment.
- Biological aspects of soil remediation.
- Hazardous substances and hazardous waste overview.
- Types of hazardous substances and associated environmental and health hazards including class labelling of dangerous goods, material safety data sheets, human and ecotoxicity, environmental chemical processes in the unpolluted environment (air, water and soil).
- Current environmental issues inc: greenhouse effect, ozone depletion, photochemical pollution, acid rain.
- Overview of Melbourne’s sewage and stormwater systems.
- Environment protection in Victoria.
- Industrial waste (trade waste, prescribed waste, priority waste) treatment and disposal.
- Contaminated sites including sources of contamination, organics, heavy metals.
- Site remediation including vapour extraction, bioremediation, stabilisation, soil washing, cap and contain, removal and disposal.
- Environmental auditing.
- Use of process flow diagrams.
- Simple process calculations.
- Disposal and dispersal of pollutants (air, water, and land).

References
Manahan, S.E., Hazardous Waste, Chemistry, Toxicology & Treatment, Chelsea Lewis, 1990.

HES4725 Occupational Health and Safety
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil •
Teaching methods: Lectures, Demonstrations, Field Work • Assessment: Assignments, Examinations.
A subject in the Bachelor of Health Science (Environmental Health Management) and Bachelor of Health Science (Public and Environmental Health).

Aims & Objectives
- To create an awareness of the types and nature of occupational hazards prevailing in particular industries.
- To develop an understanding of the specific effects these hazards have on human health.
- To study the legal requirements on employers to create a safe working environment.
- To understand the principles of safe work practices, and the rationale of safety codes.

Content
- Workplace hazards.
- Accident prevention and work related injuries.
- Employer responsibility, duty of care, responsibility for reasonable precautions.
- Occupational noise and vibration exposure.
- Heat and ventilation.
- Measurement of dusts and fumes.
- Radiation: ionising and non-ionising.
- Electrical power and electrical appliances.
- Toxic substances: mechanisms of action and pathogenic effects.
- Routes of absorption of toxic substances.
- Evaluation and control measures.
- Safety technology.
- Machine safety.
- Hazard identification.
- Fire and explosion.
- Chemical safety in the workplace.
- Handling, hazard identification.

References

HES4730 Food Safety 2
12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: HES2700, HES2635, HES2725 • Teaching methods: Lectures, Class and Field Exercises.
Assessment: Assignments, Examinations, Tests.
A subject in the Bachelor of Health Science (Environmental Health Management) and Bachelor of Health Science (Public and Environmental Health).

Aims & Objectives
- To further develop the knowledge of food science gained in earlier subjects.
- To examine the role and functions of food regulating bodies in Australia.
- To develop food audit and quality assurance skills in the student appropriate to food auditor accreditation requirements.

Content
- A detailed examination of food law and policies in Australia.
- The role and function of the Australian New Zealand Food Authority (ANZFA).
- Food standards and code development.
- The Food Standards Code.
- The role of the environmental health officer in food safety regulation and supervision.
- Food technology: a detailed study primarily production and concept of co-regulation of food manufacturing methods and processes, highlighting activities and practices that may prevent or cause health hazards, spoilage or contamination.
- HACCP Plan development and assessment - food manufacturing industry.
- Quality - terminology and definitions.
- Auditing skills.
- Audit types and stages.
- Audit reports.
- The role and responsibilities of the food safety auditor (incorporates accredited Quality Society of Australasia auditor training).

References
ANZFA, Food Standards Code (As amended).

HES4740 Environmental Control
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil •
Teaching methods: Lectures, Field Visits, Soil Laboratory Exercises • Assessment: Assignments, Examinations, Tests.
A subject in the Bachelor of Health Science (Environmental Health Management) and Bachelor of Health Science (Public and Environmental Health).
Aims & Objectives

- To examine the processes of water treatment.
- To study the processes of solid waste treatment and disposal.
- To introduce reticulated sewage treatment and disposal technologies.
- To introduce land use planning processes and strategies and their application to environmental health management.
- To examine health issues related to housing and accommodation.

Content

- Physical treatment processes for drinking water and water supply systems.
- Stormwater quality.
- Circulation and filtration plant for swimming pools and spas.
- Testing methods.
- Water quality standards.
- Cooling tower plant testing.
- Solid waste treatment and disposal.
- Litter control.
- Primary, secondary and tertiary sewage treatment processes in reticulated urban systems.
- Recycling technologies, sustainable development and cleaner production.
- Soil classification systems, laboratory and field identification and classification.
- Soil permeability.
- Percollation and application to on-site sewerage systems.
- Introduction to land use planning.
- Structure and process of planning in Victoria including neighbourhood and regional planning.
- Planning scheme surveys including environmental impact assessments.
- Health issues related to accommodation.
- Statutory controls, Prescribed Accommodation.

References

NH&MRC, Australian Drinking Water Guidelines, 1996.  

HES4900 Air Transport Pilot Licence 2

12.5 Credit Points  •  1 Semester  •  72 Hours  •  Hawthorn  •  Prerequisite: CASA CPL(A)  
Theory examination credit  •  Teaching methods: Classroom  •  Assessment: Examination 70%,  Assessed work 30%. Candidates must in addition have achieved CASA CPL to receive a pass in this subject.

A subject in the Bachelor of Technology (Aviation) and Bachelor of Technology (Aviation)/Bachelor of Business.

Aims & Objectives

To provide an extensive understanding of the purpose, operation and limitations of navigation systems and methods and an ability to take into account the importance of the dynamic atmosphere to flight operations up to Airline Transport Pilot Licence standard. To provide knowledge of human performance and limitations relevant to Airline operations.

Content

Global Navigation:

- Aeronautical charts.
- Time zones.
- Air data instruments.
- Air data computer.
- Gyroscopic principles.
- Compasses.
- Radio wave propagation.
- ADF, VOR, DME, ILS, MLS.
- Ground radar.
- Airborne weather radar.
- SSR.

Radio altimeter.
- Route navigation.
- Route selection.
- Navigation on climb and descent.
- Use of radio nav aids.
- Calculation of track and ground speed.

Area Navigation Systems:

- Types of systems.
- General principles.
- RNAV Systems.
- Inertial Navigation Systems.
- VLF/OMEGA.
- Updating Area Navigation Systems.

High Altitude Meteorology:

- Structure of the atmosphere.
- Pressure temperature and density.
- Humidity.
- Clouds and their formation.
- Precipitation.
- Thunderstorms.
- Wind and pressure.
- Local winds.
- Mountain effects.
- Micro bursts.
- Variation of winds with height.
- Measurement of visibility.
- Fog, other causes of reduced visibility.
- Airframe icing.
- Engine icing.
- Reports of icing.
- Properties of air masses.
- Classification of air masses.
- Basic synoptic analysis.
- Fronts, frontal depressions, non frontal depressions.
- Anticyclones.
- Stream weather.
- The tropopause.
- Upper level jet streams and CAT.
- Upper level weather charts.
- Global pressure distribution.
- Monsoonal weather.
- Tropical storms.
- Meteorological observation methods.
- Q codes.
- In flight observations.
- Satellite observations.

Human Performance and Limitations:

- Metabolism.
- Respiratory system and blood circulation.
- The pressure cabin.
- Human information processing.
- Vision, hearing, equilibrium.
- Integration of sensory inputs.
- Spatial disorientation and illusions.
- Memory, human behaviour, personality.
• Skills, human error and reliability.
• Cockpit management.
• Leadership, communication.
• Judgement and decision making.
• Flying and health.

References

Thom, T., Aviation Human Factors, Aviation Theory Centre.


Thom, T., Aviation Human Factors, Aviation Theory Centre.

Civil Aviation Safety Authority, Civil Aviation Orders.

Civil Aviation Safety Authority, Aeronautical Information Publication.

Civil Aviation Safety Authority, ATPL Syllabus.

HES4905 Air Transport Pilot Licence 3

12.5 Credit Points 1 Semester 72 Hours Hawthorn Prerequisite: CASA CPL(A) examination credit 10% of the assessment. Candidates must have passed both the CASA CPL exam and the subject.

A subject in the Bachelor of Technology (Aviation), Bachelor of Technology (Aviation)/Bachelor of Business.

Aims & Objectives
To reinforce and increase the student's basic understanding of aircraft systems and of the aeronautical and aerodynamic factors influencing aircraft performance up to Airline Transport Pilot Licence standard. Additionally, the student will learn the flight rules and procedures applicable to IFR flight.

Content
Advanced aerodynamics:
• Terminology.
• Aerodynamic forces.
• Shock waves.
• Performance and speed.
• Performance and altitude.

Airframe and Systems:
• Flight controls.
• Landing gear.
• Actuating systems.
• Air conditioning and pressurisation.
• Ice and rain protection.
• Fuel systems.
• Electrical systems.

Turbine Engines:
• Thrust.
• Principles of operation.
• Engine construction.
• Turbo propellers.
• Auxiliary power units.
• Operational considerations.
• Starting.

Engine Instruments:
• Displays.
• EPR gauge.
• Torque meter.
• RPM indicator.
• Turbine temperature indicator.
• Fuel consumption.

• Total air temperature (TAT) gauge.

Flight Instrumentation Systems:
• Application of computers to aircraft, ERIS, FMS.

Automatic Flight Control Systems:
• Autopilot, flight director, auto-throttle, autoflight.
• Flight envelope protection in autopilot, associated autosystems.

Warning and Recording Equipment:
• Ground proximity warning systems (GPWS).
• Traffic Collision Avoidance System (TCAS).
• Overspeed Warning System.
• Stall warning.
• Take-off warning system (TWS).
• Digital Flight Data Recorder (DFDR).
• Cockpit Voice Recorder (CVR).
• Master Warning Systems.

Flight Rules and Air Law:
• Aircraft Nationality and Registration.
• Airworthiness of Aircraft.
• Personnel Licensing.
• Rules of the Air.
• Procedures for Air Navigation.
• Air Traffic Services.
• Aeronautical Information Service.
• Aerodromes.
• Facilitation.
• Search and Rescue.
• Aircraft accidents and incidents.
• Air service operations.

Instrument Flight Rules:
• Documentation.
• Right planning.
• Operational requirements.
• Meteorological considerations.
• Radio navigation aids.
• Fixing position.
• Departure and approach procedures.
• Circling and missed approach procedures.
• Pilot qualifications and recency.
• Privileges and limitations.

Textbook:

References

Civil Aviation Safety Authority or Jeppeson equivalent of: Aeronautical Information Publication, Civil Aviation Orders, Civil Aviation Regulations, Departure and Approach Procedure Charts, En route Charts, Terminal Area Charts.


Avionics Fundamentals, 1974, United Airlines.

Swinburne University of Technology | Higher Education Handbook 2002
HES4915  Crew Resource Management and Instructional Techniques

12.5 Credit Points  • 1 Semester  • 48 Hours  •  Hawthorn  •  Prerequisite: HES2910 (desirable but not mandatory)  •  Teaching methods: Classroom  •  Assessment: Examination 80%, Assignment 30%, Presentation 10%.

A subject in the Bachelor of Technology (Aviation), Bachelor of Technology (Air Transportation Management), Bachelor of Technology (Air Transportation Management)/Bachelor of Business.

Aims & Objectives

• To develop further understanding of Aviation Human Factors with emphasis on the psychology of learning and the importance of practical human factors training programs, such as Crew Resource Management (CRM) in aviation.
• To provide an understanding of the history, evolution and techniques of CRM training.
• To examine the theoretical aspects and practical applications of the psychology of learning.
• To enhance teamwork and leadership skills.

Content

• Basic learning theories.
• Conditioning and learning.
• Memory and forgetting.
• Language and thought.
• Thinking and problem solving.
• Optimising learning.
• Instructional techniques.
• Understanding Human Error.
• Crew Resource Management.
• CRM Overview.
• CRM in Practice.
• Extending CRM beyond the cockpit door.
• Organisational Resource Management.
• CRM Research and Evaluation.
• Cross-cultural perspectives.
• Situational Awareness and Decision Making.
• Contemporary Problems in Automation Management.
• Hazardous Attitudes.
• Error Management.

Textbook


References

Dietz, A., Thoms, T., Flights, Personality and Performance.

HES4960  Aviation Project

12.5 Credit Points  • 1 Semester  • 48 Hours  •  Hawthorn  •  Prerequisite: Completed a substantial part of the second year subjects of the course.  •  Teaching methods: Classroom  •  Assessment: Assessed work 100%.

A subject in the Bachelor of Technology (Aviation) and Bachelor of Technology (Air Transportation Management).

Aims & Objectives

To provide students with the opportunity to conduct a major private research exercise in the field of aviation and present the finding to a group forum for critical appraisal.

Content

Major private research exercise in the field of aviation and presentation to a group forum for critical appraisal.

References

Lamborn, et al., Writing Technical Reports and Essays, Swinburne University of Technology.

HES4980  Aviation Facilities Management and Contemporary Issues

12.5 Credit Points  • 1 Semester  • 48 Hours  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: Lectures 2 Hours, Tutorial/Project 3 Hours  •  Assessment: Examination 50%, Assignments/Tutorial/Project 50%.

A subject in the Bachelor of Technology (Aviation), Bachelor of Technology (Air Transportation Management), Bachelor of Technology (Aviation)/Bachelor of Business, and Bachelor of Technology (Air Transportation Management)/Bachelor of Business.

Aims & Objectives

• To provide a detailed understanding of the requirements for managing aviation and similar business facilities.
• To alert students to the wider range of contemporary issues that impinge on the running of a successful aviation business.

Content

A range of issues are addressed to enable students to understand management related to keeping airline and operator organisations safe, reliable, legally compliant and profitable. While examining each issue in detail the ever-pervading aspect of related information Technology must be addressed. This is examined in a total aviation context and perspective. In aviation, time and safety is the essence and thus the accuracy of information systems, particularly when the thrust needs to be balanced with economic operations, is paramount.

While all aspects in the course outline are related to organisational effectiveness the matter of economic deregulation, airline alliances, code sharing, and marketing are examined also. Other very important issues include fuel integrity and management, Extended Twin Engine Operations, Air Cargo, total Security and related issues, Emergency Management and Risk Management and related insurance implications. Flight simulation is a highly important example of Information Technology, particularly as it relates to artificial intelligence and security. The cost effectiveness of flight simulators is becoming extremely important as the Civil Aviation Safety Authority (CASA) permits, in ‘approved’ cases, that this type of technology may be credited towards approved flying hours in lieu of actual flying. Naturally, the security, safety and reliability of such systems is paramount and that it accurately simulates actual flying conditions.

General management procedures and practices in aviation and related organisations must be efficient. Errors of judgment in any department can lead to safety problems, hence the need for optimum overall efficiency and due diligence in all aspects of aviation. Information Technology is an important element in this subject and pervades the total management structure of aviation. This subject includes the theory of Information Systems, including the use of ‘Access’ (using ‘North Wind’ Data Base examples) together with practical aviation examples, thus giving a strong theoretical and practical base.

• Flight Simulation.
• Fuel.
• Importance of quality, integrity and supply and its management.
• Extended Twin Engine Operations (ETOPS).
• Air Cargo Operations.
• Airport Development and Planning.
• Security.
• Airport - passenger/visitor/others screening, Aircraft - on ground and on board.
• International Conventions and National Laws.
• Emergency Management.
• Risk Management/Aviation Insurance.

Swinburne University of Technology | Higher Education Handbook 2002
Aims & Objectives

To equip both non flying and flying graduates with the skills to operate effectively in an International Civil Aviation Organisation (ICAO) model airspace.

Content

The subjects studied in detail in this subject will be drawn from the following:

- The establishment of airspace including the services provided.
- Aircraft performance and air traffic services.
- Navigation charges and flow management.
- The Australian Advanced Air Traffic System.

Textbook


References


HES4990 Aviation Law

12.5 Credit Points  1 Semester  60 Hours  Hawthorn  Prerequisite: Nil  Teaching methods: Lectures 2 Hours, Assignments/Tutorials 3 Hours  Assessment: Examination 50%, Assessments/Assignments 50%.

A subject in the Bachelor of Technology (Aviation), Bachelor of Technology (Air Transportation Management), Bachelor of Technology (Aviation)/Bachelor of Business, and Bachelor of Technology (Air Transportation Management)/Bachelor of Business.

Aims & Objectives

To introduce students to the Australian aviation legal system and extending this into the international scene particularly as to how national and international flying and organisation and business operation may be affected. To provide an understanding of common law and its relationship with aviation law such as with aircraft accident and incident investigations, as well as coronial inquiries.

Content

- World Aviation Organisations (ICAO/IATA).
- Chicago Convention including Annexes.
- Air Service Agreements.
- Standards.
- Australian legal system.
- Government operational requirements.
- Professional Liability.
- Business operations.
- Both at the organisation structural and operational levels and related legal responsibilities Aviation insurance.
- Contracts (both national and international) including leasing and purchase of aircraft, facilities and personnel Aircraft ownership.
- Passenger safety and security.

References

Bartsch, R., Aviation Law in Australia, LBC Information Services, 1996.
ICAO Annexe 13.
Aims & Objectives

- To develop the ability to apply the principles of material balance, energy balance, reaction kinetics, reactor engineering, separation technology and process design to environmental engineering problems.
- To develop an understanding of the common engineering principles for pollution control and prevention.
- To develop an appreciation of environmental assessment techniques and environmental management issues.

Content

- Water quality engineering: water supply systems, water quality, design of water treatment processes.
- Wastewater engineering: wastewater sources and characteristics, design of physical, chemical and biological treatment processes.
- Air quality engineering: air pollutants, air quality issues, design of physical, chemical and biological air emissions control processes.
- Solid and hazardous waste management: collection and disposal of refuse, integrated solid waste management, hazardous and radioactive waste management.
- Noise pollution: measurement of sound, noise abatement and control.
- Global and local environmental issues: ozone depletion, atmospheric warming, biodiversity, renewable resources, social issues, impact of population and quality of life.
- Environmental impact assessment: risk assessment, legislation and regulations.
- Pollution prevention: cleaner production, waste minimization, life cycle analysis, environmental ethics.
- Demand management strategies: economic controls.
- Occupational health and safety: legislation, community education and programs.

References

Grady, C.P., Jr., Lim, H.C., Biological Wastewater Treatment, Marcel Dekker, 1980.
Grady, C.P. L., Jr., Lim, H.C., Biological Wastewater Treatment, Marcel Dekker, 1980.

HES5065 Process Plant Design

12.5 Credit Points  1 Semester  60 Hours  Hawthorn  Prerequisite: All first, second & third year subjects, plus HES5051, HES5065  Teaching methods: A major plant design project, plus lectures, guest lectures, tutorials  Assessment: Class presentations, Research Paper

A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Business, Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Engineering (Chemical & Bioprocess) and Bachelor of Engineering (Chemical & Bioprocess)/Bachelor of Business.

Aims & Objectives

- To apply knowledge acquired during the course to the development and design of a new processing plant, from concept evaluation to final production.
- To develop skills in planning, executing and reporting on a major project.

Content

- General design considerations.
- Process design development.
- Feasibility studies.
- Flowsheets.
- Process design strategy.
- Process synthesis
- Task integration.
- Economic analysis.
- Costs, profits, and cash flows.
- Cost estimation: capital and manufacturing costs.
- Cost indices.
- Types and accuracy of estimates.
- Investment and profitability.
- Time value of money.
- Contribution and break-even charts.
- Taxes, insurance, inflation, depreciation.
- Methods for profitability evaluation.
- Optimum design.
- Plant life cycle.
- Accounting and cost control.
- Safety and environmental evaluation.
- Social and environmental impact study.
- Design for sustainability.
- Energy conservation, waste minimization.
- Waste treatment and disposal.
- Occupational health and safety.
- Design and costing of major equipment.
- Design optimisation.
- Practical considerations in design.
• Design codes and standards.
• Process control.
• Process dynamics, instrumentation.
• Quality measurement and quality control.
• Plant siting and layout.
• Factors to consider: raw materials, water, power and fuel, markets, labor, transportation, climate, waste disposal, safety, future expansion, etc.
• Process engineering management.
• Project planning, scheduling and budgeting.
• Contract planning and supervision, contract documents, tendering.
• Organisation of reports.
• Law for engineers.
• Human resource management, industrial relations, negotiation.
• Introduction to risk engineering and loss prevention.

In addition to lectures and tutorials, students will be given a plant design assignment and are expected to submit an assignment report, among other things: statement of problem, final design proposal, environmental impact statement, flow sheets and drawings, material and energy balances, major equipment list and specifications, plant layout, summary of cost and profit analyses, and design data and calculations.

References

HES5095 Bioprocess Engineering
12.5 Credit Points • 1 Semester • Hawthorn • Prerequisite: All first, second & third year subjects • Teaching methods: Lectures 36 Hours, Tutorials 24 Hours. • Assessment: Assignments, Examinations.

A subject in the Bachelor of Engineering (Chemical & Bioprocess) and Bachelor of Engineering (Chemical & Bioprocess)/Bachelor of Business.

Aims & Objectives
• This subject will fully develop the connection between the various engineering subjects in the course and the biological subjects.
• The subject will develop the integrating skills that will enable the graduate to modify practices of Chemical Engineering to accommodate the specific requirements of biological systems.

Content
A selection will be made from the following topics in order to identify problems that will be in the form of written reports, oral presentations, design computation models and are expected to submit a design report containing, among other things: statement of problem, final design proposal, environmental impact statement, flow sheets and drawings, material and energy balances, major equipment list and specifications, plant layout, summary of cost and profit analyses, and design data and calculations.

References

HES5110 Design & Construction 1
12.5 Credit Points • 1 Semester • Hawthorn • Prerequisite: Completion up to 8 semesters • Teaching methods: Lectures, seminars, workshops, tutorials, poster presentations, laboratory work, computer based Learning. The project may be university based or industry based. It may take various forms involving technology research and development, experimental work, computer analysis, industry liaison and business skills. Students are expected to conduct literature and state-of-the-art surveys, formulate and define problems, generate and select solutions, and analyse and prepare designs. Where appropriate, students will build and test their design. Projects are undertaken under the close supervision of a staff member who meets regularly with the students to discuss and assure progress. Total student time spent on the project is expected to be a minimum of 160 hours.

References

Higher Education Handbook 2002
Swinburne University of Technology | Higher Education Handbook 2002
HES5125  Design & Construction 2
12.5 Credit Points • 1 Semester • 72 Hours • Hawthorn • Prerequisite: Completion up to 8 semesters • Teaching methods: Lectures 24 Hours, Tutorials/Project 36 Hours, Consultations 12 Hours • Assessment: Class presentations, Research Paper
A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Arts and Bachelor of Engineer (Civil)/Bachelor of Business.
Aims & Objectives
• To develop students’ abilities to synthesise knowledge in a project design situation.
• To further develop students presentation skills.
• To further develop teamwork skills.
Content
Project work encourages students to find alternative technical solutions to civil engineering problems with a structural/construction focus. Students will have to consider economic viability, constructability, sustainability, social and cultural context of their solutions. Lectures will support these topics, including regulatory planning, oral presentation and report writing.
References

HES5130  Water Engineering
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HES2340 • Teaching methods: Lectures 36 Hours, Tutorials/Laboratories 24 Hours • Assessment: Assignments, Examinations.
A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Arts and Bachelor of Engineering (Civil)/Bachelor of Business.
Aims & Objectives
• Students should learn to apply the principles of hydraulics, hydrology and water quality to the design of stormwater systems and the management of urban catchments.
• Students should improve their ability to communicate technical information and review technical issues.
• Students should develop an appreciation of social objectives and environmental issues in urban catchment management.
Content
Water treatment (20%):
• Wastewater.
• Potable water.
• Stormwater.
• Water conservation.
Flood estimation (20%):
• Unit hydrograph method.
• Statistical rational method.
• Flood routing through storages and streams.
Urban drainage systems (10%):
• Major/minor systems.
• Hydraulic design.
Flood attenuation (15%):
• Flood retarding basins.
• On-site detention.
• Grass swales.
River and waterway management (15%):
• Structures.
• Channel hydraulics.
• Waterway stability.
Water quality in urban catchments (20%):
• Pollution sources.
• Multiple uses and quality standards.
• Source controls.
• Gross pollutant traps.
• Nutrient ponds.
References

HES5135  Local Planning & Engineering Systems
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HES3110 • Teaching methods: Lectures 36 Hours, Tutorials 24 Hours • Assessment: Assignments, Examinations.
A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Arts and Bachelor of Engineering (Civil)/Bachelor of Business.
Aims & Objectives
• To understand the constitution powers and responsibilities of local government, its organisation, and the role of engineering in local government activity.
• To learn principles and techniques for common engineering responsibilities in municipal work: subdivision design, traffic planning, environmental planning.
Content
Local community development (44%):
• Residential subdivisions.
• Pedestrian and cycle networks.
• Local area traffic management.
• Open space and recreation facilities.
• Streetscapes.
• Waterway management and integration in open space networks.
• Planning for impact of commercial developments.
Municipal Engineering & Management (24%):
• Municipal powers, responsibilities and governance.
• Corporate management process.
• Role of municipal engineer.
• Environment in Local Areas (32%):
• Council role and responsibility.
•Catchment management planning.
• Solid waste management.
• Landfill engineering, recycling.

HES5140  Structural Engineering 2
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HES4125 • Teaching methods: Lectures 36 Hours, Tutorials 14 Hours, Laboratory Work 10 Hours • Assessment: Examinations, Pracs, Research Paper.
A subject in the Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Arts and Bachelor of Engineering (Civil)/Bachelor of Business.
Aims & Objectives
• To give students an appreciation of materials technology as applied to structural engineering.
• To develop an understanding of the behaviour of structures subject to dynamic loads.
• To broaden students understanding of structural behaviour through project work.
Content
Materials technology (17%):
• Fibre composite materials.
• Polymer materials.
• Steel technology.
• Deformation and fracture.
• Heat treatment in relationship to welding practice.
• Welding processes.
• Fracture mechanics.
• Fatigue, corrosion and stress corrosion.
• Concrete technology: additives.
  Structural dynamics (17%):
  • Free and forced vibration of one degree-of-freedom systems.
  • Response spectra.
  • Analysis of multi degree-of-freedom systems.
  • Foundations of vibrating machinery.
Earthquake engineering (17%):
  • General principals.
  • Static analysis.
  • Design of earthquake resistant structures.
  • Effect of earthquakes on foundations.
Design project (50%). From a selection of topics including:
  • European and American codes.
  • Residential slab design.
  • Tension structures.
  • Composite steel/concrete design.
  • Bridge design, crane design.
  • Design of timber portal frames.
References

HES5170  Building Infrastructure
12.5 Credit Points  1 Semester  60 Hours  Hawthorn  Prerequisite: HES3110  Teaching methods: Lectures 36 Hours, Tutorials/Projects 24 Hours.  Assessment: Assignments, Research Paper.
A subject in the Bachelor of Engineering (Civil).
Aims & Objectives
To develop an understanding of construction and building systems and their most efficient use.
Content
  • Construction and building systems in the domestic, industrial and commercial markets (45%).
  • Cost of production (10%).
  • Building regulations, fire safety and essential building services (15%).
  • Maintenance and durability of structures (20%).
  • Cost of construction (10%).
References
  Harris, F., McFarr, R., Modern Construction Management.

HES5175  Cost Engineering
12.5 Credit Points  1 Semester  60 Hours  Hawthorn  Prerequisite: HES4125 & HES4115  Teaching methods: Lectures 36 Hours, Tutorials/Projects 24 Hours.  Assessment: Assignments, Research Paper.
A subject in the Bachelor of Engineering (Civil).
Aims & Objectives
  • To enable the student to prepare bills of quantities.
  • To appreciate the various types of bills.
  • To appreciate feasibility studies and costs.
  • To measure Building and Civil Engineering quantities.
  • To use the appropriate electronic hardware and software for support.
Content
  • Cost engineering techniques such as cost analysis, risk analysis, project control, life cycle costing and value engineering.
  • Standard method of measurement for buildings and civil construction projects.
  • Measuring and billing of quantities, trade oriented bill of quantities including elemental specified and operational, principles of elemental cost analysis, reliability of data, measurement of Civil Engineering quantities, computer assisted bills of quantities.
References
  Australian Standard Method of Measurement of Building Work A2S/MBA.

HES5210  Industrial Systems
12.5 Credit Points  1 Semester  60 Hours  Hawthorn  Prerequisite: HET182  Teaching methods: Lectures 54 Hours, Laboratory 8 Hours.  Assessment: Assignments, Examinations.
A subject in the Bachelor of Engineering (Manufacturing) and Bachelor of Engineering (Product Design).
Aims & Objectives
  • To understand manufacturing systems in a market-driven context.
  • To understand the approaches, tools and techniques necessary for successful operation of manufacturing systems.
  • To decide on and select suitable sensors for collection of data from a manufacturing process.
  • To be able to select suitable control devices for manufactured products.
Content
  Manufacturing systems (48%):
  • Structured analysis and design techniques.
  • Fundamental issues in manufacturing systems.
  • Competitiveness and manufacturing.
  • Manufacturing environment.
  • Manufacturing operations.
  • Concurrent engineering.
  • Manufacturing decisions.
  • Decisions and uncertainty.
  • Planning and design issues.
  • Introduction to types of facility layout.
  • Material resources planning.
  • Material requirement planning, managing job and batch operations.
  • Scheduling techniques, just-in-time, support functions.
  • Total quality management, quality management.
  • Sensor Technology (24%):
    • Data acquisition, Sensor types, limitations, technology.
    • Vision and imaging systems, image analysis, application of sensor technology.
  Product control devices (24%):
    • Programmable logic controllers.
    • Domestic appliance control devices: safety devices, thermostats, timers, set-point controllers, electro-mechanical controllers, consumer electronics.
References
  Tooley, M., PC-Based Instrumentation and Control, BH Newnes, 1993.

HES5250  Robot System Design
12.5 Credit Points  1 Semester  60 Hours  Hawthorn  Prerequisite: Completion of Intermediate studies  Teaching methods: Lectures 24 Hours, Tutorials 28 Hours, Laboratory 8 Hours.  Assessment: Assignments, Examinations.
A subject in the Bachelor of Engineering (Robotics & Mechatronics), Bachelor of Engineering (Robotics & Mechatronics) & Bachelor of Applied Science (Computer Science & Software Engineering) and an elective in the Bachelor of Engineering (Mechanical).
Aims & Objectives
- To develop an understanding of the operation of programmable logic controllers and industrial robots.
- To develop the ability to combine various elements of automation to create systems that improve manufacturing productivity.
- To develop an appreciation of the social and financial impact of decisions relating to implementation of automation, particularly robotics.

Content
- Pneumatic circuit design.
- Automation with programmable logic controllers (PLC).
- Circuit design for automation.
- Automated assembly.
- Fundamentals of robotics.
- Robot end effector design.
- Robot programming.
- Robot applications in manufacturing.
- Robot arm kinematics.
- Robot dynamics.
- Robot safety.
- Financial and social impact of robot installations.

References

HES5270 Computer Aided Engineering 2
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HES2270 • Teaching methods: Lectures 12 Hours, Computer Laboratory 48 Hours. • Assessment: Assignments, Participation, Tests.
A subject in the Bachelor of Engineering (Manufacturing), Bachelor of Engineering (Robotics & Mechatronics), Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Applied Science (Computer Science & Software Engineering).

Aims & Objectives
- To provide a working knowledge of advanced computer aided design, techniques, modelling analysis and its applications.
- To provide a better understanding in advanced topics in CAD/CAM.
- To enable work on an individual CAD/CAM project.

Content
Finite element analysis (16%):
- Fundamentals of finite element analysis.
- 2D and 3D elements.
- Modelling techniques.
- Mesh generation.
- Linear and non linear static analysis.
- Dynamic analysis.
Parametric design (16%):
- Introduction to parametric design and its applications.
- Parametric modelling techniques.
- Use of high level languages and CAD.
- Examples of parametric modelling softwares.
Form feature design and solid modelling (16%):
- Design by features.
- Creating form features.
- Feature extraction.
- Libraries, applications and modelling.
- Interference checking for assembly.
Space curves and surfaces (16%):
- Theory of curves and surfaces used in CAD systems.
- Parametric representation of curves and surfaces.
- Bezier curves and surfaces, patch, relationship to CAD.
- NC machining of CAD models (16%).
- Steps in producing a part program from a CAD system.
- Modelling and machining strategy.
- Tool path generation.
- Automatic programmed tool file creation.
- Post processing.
- Verification of part programs.

References
• Advanced metallographic methods.
• X-ray diffraction.
• Transmission electron microscopy.
• Scanning electron microscopy.
• Raman spectroscopy.
• Mössbauer analysis.
• Non-contact inspection.
• Automation and robotics: Industrial applications and techniques.
Industrial visits:
• Industries operating plasma spraying.
• Physical vapour deposition.
• Diecasting and research laboratories.

References

HES5310 Machine Dynamics 2
12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HES2310 • Teaching methods: Lectures 36 Hours, Tutorials/Computer/Laboratory 24 Hours • Assessment: Assignments, Examinations, Labs.
A subject in the Bachelor of Engineering (Mechanical), Bachelor of Engineering (Mechanical)/Bachelor of Arts and Bachelor of Engineering (Mechanical)/Bachelor of Business.

Aims & Objectives
• To develop the ability to design viable mechanism solutions to real, unstructured engineering problems.

Content
Kinematics of mechanisms (24%):
• Analysis of linkages and four-bar slider crank.
• Linkages of more than four bars.
• Transmission angles, toggle positions.
• Types of kinematic synthesis, precision points, two position motion generation by analytical synthesis.
• Matrix solution, three position motion generation, examples of analytical linkage synthesis.
• Velocity analysis, instant centres, velocity analysis with instant centres.
• Centres, slip velocity, examples of analytical solutions for velocity analysis.
• Acceleration: Graphical acceleration analysis.
• Examples of analytical solutions for acceleration analysis.
• Acceleration of any point on a linkage.
• Human tolerance of acceleration.
• Jerk.
Mechanics of Machinery (32%):
• Cam terminology, SVAJ diagrams, cam design.
• Rolling cylinders, law of gearing.
• Gears: interference and undercutting, gear trains and transmissions.
• Review of the fundamentals of dynamics.
• Analysis of linkages.

• Shaking forces and shaking torque, flywheels.
• Balancing of a four-bar linkage, measuring and correcting imbalance.
• Slider-crank kinematics.
• Gas force and gas torque, equivalent masses, inertia and shaking forces and torques.
• Pin forces and balancing in the single cylinder engine.
• Design trade-offs.
• Types of robots: Joints, end effectors, envelopes, equations of motion, practical considerations.

Engine Dynamics (8%):
• Engine kinematics, flywheels, balancing.
• Design tradeoffs and ratios.
• Multi-degree-of-freedom systems (32%):
• Lagrange’s equations, generalised coordinates, generalised velocities, generalised forces.
• Equations of electro-mechanical systems.
• State space formulation, state-transition matrix, solution equation.
• Multi-degrees of freedom - matrix formulation and solution (eigenvalues), principal modes and principal co-ordinates, forced vibration of systems.
• Vibration of continuous system: beams and torsion analysis, finite difference and Rayleigh’s methods.

Textbooks

References
**HES5340 Fluid Mechanics 2**

12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HES3340 • Teaching methods: Lectures 36 Hours, Tutorials/Projects 24 Hours. • Assessment: Assignments, Examinations, Project(s).

A subject in the: Bachelor of Engineering (Mechanical), Bachelor of Engineering (Mechanical)/Bachelor of Arts and Bachelor of Engineering (Mechanical)/Bachelor of Business.

**Aims & Objectives**

- To enhance understanding of fluid behaviour through application of dimensional reasoning, drag and lift considerations, boundary layer theory, compressible flow theory, measurement techniques and pump and turbine theory, computational fluid dynamics and computer applications and simulations.
- To develop an appreciation of the design principles in thermo-fluid systems.
- To develop the ability to analyse existing thermo-fluid systems and contribute to new designs.

**Content**

**Drag and Lift (16%):**
- Basic considerations.
- Drag of two-dimensional bodies.
- Coefficients of drag.
- Vortex shedding from cylindrical bodies.
- Streamlining, drag of axisymmetric and three-dimensional bodies.
- Terminal velocity.
- Effects of compressibility on drag.
- Lift: circulation, airfoils.
- Airfoils of finite length.
- Drag and lift on road vehicles.

**Surface Resistance (16%):**
- Surface resistance with uniform laminar flow.
- Qualitative description of the laminar and turbulent boundary layers.
- Quantitative relations for the laminar and turbulent boundary layer.
- Boundary layer control.

**Compressible Flow (24%):**
- Wave propagation in compressible fluids.
- Mach number relationships.
- Normal shock waves.
- Isentropic compressible flow through a duct with varying area.
- Compressible flow in a pipe with friction.

**Flow Measurements (8%):**
- Instruments for the measurement of velocity.
- Pressure and flow rate.
- Measurement in compressible flow.

**Advanced Turbomachinery (8%):**
- Propeller theory.
- Axial flow pumps.

- Radial flow machines.
- Specific speed.
- Suction limitations.
- Turbines.
- Viscous effects.

**Computational Fluid Dynamics (24%):**
- Finite difference equations.
- Discretisation techniques.
- Viscosity variations.
- Incompressible and compressible flows.
- Unsteady flow modelling.
- Introduction to CFD computer packages.
- CFD modelling project.
- Computer based pipe network analysis and design.

**References**


**References**


**References**


HESS380  Engineering Management 2

12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HESS380 • Teaching methods: Lectures 36 Hours, Tutorials 24 Hours. • Assessment: Assignments, Examinations.

A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Engineering (Chemical and Bioprocess), Bachelor of Engineering (Civil), Bachelor of Engineering (Manufacturing), Bachelor of Engineering (Mechanical), Bachelor of Engineering (Robotics & Mechatronics), Bachelor of Engineering (Robotics & Mechatronics) & Bachelor of Applied Science (Computer Science & Software Engineering), Bachelor of Engineering (Product Design).

Aims & Objectives

- To provide an extending engineering management skill set to prepare candidates for the management requirements of engineering projects and practices.
- To emphasise that competence in engineering management, business and social responsibility are essential components of the profession of engineering.
- To engender the knowledge, skills and attitudes required for successful engineering practice.

To introduce the concepts of literature review and thesis writing.

Content

Engineering project management (35%):
- Project initiation, acceptance and definition.
- Project analysis, planning, scheduling and control.
- WBS-work packages, budgeting, costing and contracts.
- Contract planning, control, documentation, specifications, cost accounting systems, subcontracts.
- Engineering project manager roles, characteristics, traits, ethics.

Accounting for engineers (20%):
- Principles of accounting, financial statements, analysis, cash management, capital expenditure, depreciation and budgets.
- Cost accounting: product process, project overheads.
- Standard and marginal costing.
- Break-even analysis.

Project estimating, costing, budgetary controls.

Engineering finance (15%):
- Financing of engineering projects.
- Sourcing: capital accounting—lending institutions, venture capital, share capital.
- Investment criteria, taxation, planning and financing engineering products, capital budgeting and financial risk assessment.

Law for engineers (15%):
- Legal practice relevant to engineering projects and activities: torts, contracts, tendering, arbitration, breach of contract, contracts management.
- Industrial relations: employment contracts, awards.
- Commercial law: sale of goods, intellectual property and its protection, product, professional and criminal liability, trade practices, OH&S obligations, the expert witness.

Introduction to literature review and thesis writing (15%).

Textbooks

HESS385  Engineering Management 3

12.5 Credit Points • 1 Semester • 60 Hours • Hawthorn • Prerequisite: HESS380 • Teaching methods: Lectures 36 Hours, Tutorials 24 Hours. • Assessment: Assignments, Examinations.

A subject in the Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Science (Biotechnology), Bachelor of Engineering (Chemical Engineering)....
Aims & Objectives
- To provide a basis for continuing self-education to enable graduates to perform professionally in times of rapid change and to kindle interest in further studies in management after graduation.
- To give an appreciation of developments and trends in management within the field of engineering.

Content
Engineering economics (24%).
- Micro-economics.
- The market system and competition.
- Macro-economics.
- Project economics.
- Time value of money.
- Project evaluation: feasibility studies, cost benefit-risk analysis.

Human resource management (16%):
- Nature of industrial relations (IR).
- Australian IR systems, major players and their contribution, disputes (including causes-nature-settlement), awards and agreements.
- Institution of Engineers (Australia) guidelines on IR, nature of human resource management.

Operations and quality management (16%):
- Quality management, assurance, control SQC costs, service, safety systems.

Engineering innovation (8%):
- Management of technological change.
- Competitive innovation.
- Recognising and commercialising innovation.
- Entrepreneurship.
- Research and development.
- Time-cost-risk factors.

Textbooks

References

HES9540 Honours Lectures
12.5 Credit Points • 2 Semesters • 1 Hour per Week • Hawthorn • Prerequisite: HES4500, HES4505, Acceptance into honours course. • Teaching methods: Lectures • Assessment: Tests, Assignment and attendance at compulsory lectures.

Aims & Objectives
To expose students to high-level lectures in the areas of current relevant research within the School of Engineering and Science. To provide students with skills required for undertaking a postgraduate research program.

Content
The content of the lectures will change as the chemistry research focus changes within the school. Current lectures are in the areas of Capillary Electrophoresis, Literature Searching, Experimental Design, Image Analysis, Computational Chemistry, Statistics for Research, Metal Adsorption, Colloid Chemistry, Advanced Organic Chemistry, Laser Spectroscopy, Honours Report Writing, Multimedia Presentation, Industrial Enzyme Technology and Industrial Catalysis.

References
To be notified by the lecturers concerned.

HES5580 Honours Project
37.5 Credit Points • 2 Semesters • 12 Hours per Week minimum • Hawthorn • Prerequisite: HES4500, HES4505, Acceptance into honours course. • Teaching methods: Project supervision • Assessment: Honours report, Oral Presentation.

A subject in the Bachelor of Applied Science (Chemistry)(Honours) and Bachelor of Applied Science (Biochemistry/Chemistry)(Honours).

Aims & Objectives
To gain the skills required to perform scientific research that will make a contribution to the understanding of a particular area of science, and to be able to present the work both in the written format and as an oral presentation.

HES6130 Strategic Logistics Planning
12.5 Credit Points • 1 Semester or equivalent short course mode • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures/Tutorials/Case Studies • Assessment: Assignments, Examinations.

A subject in the Graduate Certificate of Technology in Logistics, Graduate Diploma in Technology in Logistics and Masters of Technology in Logistics.

Aims & Objectives
On completion of this unit, students will have an understanding of the environment in which logistics and distribution are planned and executed. Students will also be familiar with physical supply and distribution systems and the optimum location of storage and transfer sites.

Content
- Concept and components of logistics at the strategic planning level and the relation to superior service, cost reduction and quality supply chain management, links to purchasing and materials management.
- Importance of logistics planning to the provision of service and quality through such means as lean supply and quick response systems.
- Development of the business plan leading towards logistics planning.
- Understanding the company structure and how logistics settles into that framework.
- Planning to develop and manage a modern supply chain.
- Planning the introduction and maintenance of information technology for use in electronic commerce.
- Planning and using modern warehousing methods, physical distribution and transport.

References

HES6131 Procurement and Inventory Management
12.5 Credit Points • 1 Semester or equivalent short course mode • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures/Tutorials/Case Studies • Assessment: Assignments, Examinations.

A subject in the Graduate Certificate of Technology in Logistics, Graduate Diploma in Technology in Logistics and Masters of Technology in Logistics.

Aims & Objectives
On completion of this unit, students will have an understanding of the skills required to procure and manage inventory. They will also develop the required purchasing and
Managing the relationship. Customer service issues, customer expectations. Content

- Importance of the customer and how to manage and assess their needs.
- Freight tracking.
- Concept and components of purchasing and inventory management.
- Role of the supply chain in achieving least cost in a manufacturing environment.
- Strategic considerations in the procurement of raw materials, components and services.
- Ethics, fair dealing and risk management in procurement.
- Development and growth of modern procurement and inventory management.
- Methods including freight consolidation, cross docking, supplier development and lean supply methods.
- Strategic importance of procurement and inventory management to the provision of service and quality.
- Optimising inventory levels to provide appropriate service and maximise ROI.
- Role and impact of information technology and electronic commerce on current purchasing and inventory management practices.
- Development of MRP, ERP and synchronous support models.
- Sales and Operation Planning (SOP).
- Inventory management systems.

HES6132 Managing Modern Distribution

12.5 Credit Points • 1 Semester or equivalent short course mode • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures/Tutorials/CASE Studies • Assessment: Assignments, Examinations

A subject in the Graduate Certificate of Technology in Logistics, Graduate Diploma in Technology in Logistics and Masters of Technology in Logistics.

Aims & Objectives

On completion of this unit, students should have an understanding of the skills required for supply chain management and modern distribution process management.

Content

- Concept and components of modern distribution management, role played in the supply chain.
- Use of decision support models to minimise costs of distribution and for supply chain optimisation.
- Outsourcing distribution processes (3rd party logistics).
- Importance of distribution at strategic marketing level.
- Planning and managing modern distribution methods.
- Management Information Systems (MIS).
- Importance of distribution management to the provision of service and quality.
- Optimising distribution to provide appropriate service and maximise ROI.
- Role and impact of information technology and electronic commerce on current distribution practices.
- International distribution.

References


HES6133 Industry Overview & the Customer

12.5 Credit Points • 1 Semester or equivalent short course mode • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures/Tutorials/Case Studies • Assessment: Assignments, Examinations

A subject in the Graduate Certificate of Technology in Logistics, Graduate Diploma in Technology in Logistics and Masters of Technology in Logistics.

Aims & Objectives

On completion of this unit, students will have an understanding of the role of logistics and freight operations in the commercial environment. They will appreciate the importance of the customer and how to manage and assess their needs.

Content

- Customer service issues, customer expectations.
- System design to meet defined customer needs.
- Managing the relationship.
- Strategic alliance development.
- Performance based relationship, performance measures.
- Keeping the customer informed.
- Customer surveys, service integrity.
- Short term and long term supplier issues.
- Commissions.
- Selection criteria, industry type, liability issues, etc.

References


HES6810 Statutory Control A

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures 2 Hours, Tutorials/Workshops 2 Hours • Assessment: Assignments, Examinations

A subject in the Graduate Certificate Performance Building Surveying.

Aims & Objectives

- To introduce the principles, methodology and scope of performance based codes, including an understanding of the inputs, outcomes and the limitations of this method of design.
- To provide a solid grounding in the interpretation and use of the Building Act Regulations and Building Code of Australia including a conceptual framework and historical background.
- To develop the techniques of probabilistic and deterministic performance design.
- To develop a general and introductory model of the structure of performance design and approval.
- To provide background and complimentary material essential to the understanding of further subjects in the course.
- To introduce the timeline approach to analysis of performance based design.

Content

- Conceptual framework of performance regulations, life safety, illness and injury, health, safety and amenity asset protection.
- The Philosophy of Building Control.
- Historical background - Australia, New Zealand and other overseas countries.
- International approaches - New Zealand, Canada, US, UK.
- Equivalency - examples of performance based codes legislation.
- Integrated and comprehensive approvals.
- Risk Assessment and Approach - a managerial overview.
- Safety in Buildings - risks and costs, lifecycle performance and maintenance of essential services.
- Quality assurance and inspections.

References


HES6815 Statutory Control B

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures 2 Hours, Tutorials/Workshops 2 Hours • Assessment: Assignments, Examinations

A subject in the Graduate Certificate of Engineering in Performance Building Surveying.

Aims & Objectives

- To introduce the basic fire engineering design concepts.
- To discuss the statistical background to fire safety, evaluation including timeline analysis.
- To analyse human behaviour, occupant communication and human responses during a fire.
- To assess the necessary input data for risk assessment.
Aims & Objectives

To understand the mechanism of fire and smoke spread.
To understand the mechanism of smoke movement.
To study the methods of smoke control and exhaust.
To study the principle behind fire resistance levels.
To investigate the role of structural elements and assemblies.
To investigate the role of barriers, the reliability of barriers, openings and structures.
To understand the behaviour of materials under fire.

Content

- Fire and smoke development, smoke movement, buoyancy.
- Principles of smoke control in buildings.
- Smoke hazard management subsystems.
- Flame spread, modelling of flame spread and fire growth.
- Barrier system performance.
- Behaviour of materials and assemblies under fire.
- Australian Fire Codes, Fire Tests and their applications.
- Structural fire performance, introduction to the design of steel, concrete masonry and timber under fire.
- External fire spread and radiation.
- Risk assessment, risk to life, fire costs.

References


HES6845 Fire Technology B

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil •
Teaching methods: Lectures 2 Hours, Tutorials/Workshops 2 Hours. • Assessment: Assignments, Examinations.
A subject in the Graduate Certificate of Performance Building Surveying.

Aims & Objectives

- Fire and smoke development, smoke movement, buoyancy.
- Principles of smoke control in buildings.
- Smoke hazard management subsystems.
- Flame spread, modelling of flame spread and fire growth.
- Barrier system performance.
- Behaviour of materials and assemblies under fire.
- Australian Fire Codes, Fire Tests and their applications.
- Structural fire performance, introduction to the design of steel, concrete masonry and timber under fire.
- External fire spread and radiation.
- Risk assessment, risk to life, fire costs.

References


HES7130 Human Resources & Industrial Relations

12.5 Credit Points • 1 Semester or equivalent short course mode • 4 Hours per Week.
Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Tutorials, Case Studies. • Assessment: Assignments, Examinations.
A subject in the Graduate Diploma in Technology in Logistics and Masters of Technology in Logistics.

Aims & Objectives

This subject aims to equip students with an understanding of the Australian industrial relations systems, with particular emphasis on the Federal and Victorian jurisdictions.

Content

Provides a theoretical framework within which the industrial relations systems operate, the subject will address a range of contemporary issues including current federal and state legislative provisions, labour market reforms, trade union issues and the role of management in industrial relations. Also included is the understanding of the human resources skills necessary in the business logistics and freight operations environment.

HES7131 Introduction to Finance and Administration in Logistics

12.5 Credit Points • 1 Semester or equivalent short course mode • 4 Hours per Week •
Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Tutorials, Presentations from industry practitioners. • Assessment: Assignments, Examinations.
A subject in the Graduate Diploma in Technology in Logistics and Masters of Technology in Logistics.

Aims & Objectives

On completion of this unit, students will have an introduction to logistics business systems and the commercial knowledge required to operate in a logistic environment.
They will also have gained an understanding of the financial skills necessary for gauging the performance of the business.

Content
- Business finance and accounting systems, including weekly profit and loss.
- Balance sheets, cash flow statements.
- Asset utilisation and minimisation, asset ownership.
- Benchmarking, KPIs.
- IRR and ROI.
- Contract writing and negotiation.

References

HES7132 Administration and Finance of Logistics

A subject in the Graduate Diploma in Technology in Logistics and Masters of Technology in Logistics.

Aims & Objectives
On completion of this unit, students will have an understanding of the various methods for assessing the performance of their business and will understand cost and non-cost approaches.

Content
- Activity based costing of facilities.
- Costing of different business activities.
- Preparing tenders and proposals.
- Zero based/budgeting (definition and application).
- Costing methods.
- Performance measures.
- Property issues, owning, renting, leasing.
- Government regulations.
- Government transport policy environment.
- Legal and regulatory requirements.

References

HES7133 Transport and Freight Operations

A subject in the Graduate Diploma in Technology in Logistics and Masters of Technology in Logistics.

Aims & Objectives
On completion of this unit, students will have developed their skills obtained from the Logistics Business Systems unit. They will have mastered the financial skills necessary for assessing the performance of their business and will understand cost and non-cost approaches.

Content
- Real Time Vehicle Performance Evaluation.

References

HES8130 Research Project / Case Studies

A subject in the Masters of Technology in Logistics.

Aims & Objectives
To develop knowledge, and self-educative skills through research on a topic in an area relevant to the course, or by case studies of relevant materials.

Content
- Literature survey, investigation design, data gathering and analysis, assessment of case studies, presentation of results in an oral and written form.

References
Introductory biology, biochemistry, biophysics and physiology. These include cellular physiology, evolution and homeostasis, physiological control systems, organ and tissue systems, bioenergetics, physiological chemistry, physical principles, introductory immunology and an overview of the physiological systems. This introductory material forms the basis for more advanced studies.

References

HET103  Photonics 1
12.5 Credit Points  •  1 Semester  •  5 Hours per Week  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: Lectures, tutorials, laboratory work  •  Assessment: Assignments, Examinations, Lab Reports.
A subject in the Bachelor of Science (Photonics), Bachelor of Science (Photonics)/Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives
The aim of this subject is to provide students with a solid understanding of light propagation, and to introduce them to the fundamental principles underlying the operation of optical instruments. Upon completion of this unit, students should be able to:

• Understand the basic models used to describe light.
• Use these models to explain the phenomena of propagation of light through media, focussing, interference, simple diffraction and polarisation.
• Understand the operation of lenses, mirrors and stops, and how to combine them to form simple optical instruments.
• Describe total internal reflection and how optical fibres can act as light conduits.
• Describe the role of fibre optics technology in the development of modern telecommunications.

Content
• Light as Waves, Rays and Photons.
• Geometric Optics.
• Simple Optical Instruments.
• Fibre Optics.
• Polariation.
• Interference and Interferometry.
• Fraunhofer Diffraction.

Textbooks

References

HET113  The Internet and World Wide Web 1
12.5 Credit Points  •  1 Semester  •  5 Hours per Week  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: Lectures, tutorials and laboratory based exercises and practical work.  •  Assessment: Assignments, Examinations, Pracs.
A subject in the Bachelor of Multimedia (Networks & Computing)/Bachelor of Multimedia (Business Marketing), Bachelor of Multimedia (Media Studies), Bachelor of Multimedia (Multimedia Software Development) and Bachelor of Multimedia (Networks & Computing).

Aims & Objectives
To introduce the Internet, world wide web and associated local and wide-area network issues.

Content
• What is the Internet and how does it work?
• How the world wide web operates across the Internet.
• HTML and WYSIWYG web authoring tools.
• The impact on society of the global network.
• Internet tools: Telnet, FTP, Gopher etc.
• How web browsers and plug-ins work.
• Band-width issues and relevant trade-offs.
• Graphics files: size, download times and formats.
• Copyright on the Internet (source code, images, designs etc. use of other work, sampling).
• Website security and Intranets.
• Web search technologies and strategies.
• E-mail.
• On-line synchronous and asynchronous communications.

References

HET121  Introduction to Telecommunications
12.5 Credit Points  •  1 Semester  •  3 Hours per Week on average  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: Lectures, Project Work and Tutorials.  •  Assessment: Assignments, Reports, Presentations.
A subject in the Bachelor of Engineering (Telecommunications & Internet Technologies), and Bachelor of Science (Computer Science & Software Engineering)/Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives
To successfully complete this subject, students will:

• Work on a team project, record, analyse, and make a presentation on their experience.
• Design and construct a telecommunications device.
• Locate, load and run computer software from the Internet.
• Use the Internet in streaming mode.
• Create and maintain a website.
• Develop the personal communications skills necessary of a professional engineer.
• Learn the basics of the Hypertext Markup Language (HTML).
• Understand the concept of a system.
• Know how to go about making a public oration.
• Be able to adopt the attitude necessary to function efficiently in a team.
• Appreciate the terminology associated with telecommunication and Internet technologies.

Content
Tutorial sessions will 'workshop' the processes of problem definition, analysis and solution, including written communication skills, report writing, verbal communication skills and report presentation. This includes aspects of negotiation skills, dealing with difference, conflict resolution and consideration of environment impact. Students will be exposed to some preliminary teamwork and project management skills by conducting a series of small project feasibility, analysis and design tasks.
Lectures and assignments will enable students to create a Web-page in HTML format including text, frames, images, and links.
Lectures will support the project work as required.

References

HET123  The Internet and World Wide Web 2
12.5 Credit Points  •  1 Semester  •  3 Hours per Week (on average)  •  Hawthorn  •  Prerequisite: HET113 or HET121 or equivalent introduction to HTML.  •  Teaching methods: Lecture, laboratory based exercises, on-line delivery.  •  Assessment: Assignments, laboratory exercises, computer-based tests, discussion forum contribution.
A subject in the Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Multimedia (Networks & Computing)/Bachelor of Engineering (Telecommunications & Internet Technologies), Bachelor of Multimedia (Business Marketing), Bachelor of Multimedia (Media Studies), Bachelor of Multimedia (Multimedia Software Development) and Bachelor of Multimedia (Networks & Computing).

Aims & Objectives
HET123 introduces the functionality of Web page programming to achieve greater interactivity of Web sites and the development of data-driven Web sites. Several different technologies for Web page programming will be explored, and associated issues examined.
**HET124 Energy and Motion**

12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Tutorials and Practical Work • Assessment: Examinations, Pracs, Tutorials

A subject in the Bachelor of Applied Science (Psychology/Psychophysiology), Bachelor of Applied Science (Research and Development)/Bachelor of Engineering (Electronics and Computer Systems), Bachelor of Engineering (Biomedical Engineering), Bachelor of Engineering (Biotechnology), Bachelor of Engineering (Biotechnology)/Bachelor of Science, Bachelor of Engineering (Biomedical Engineering), Bachelor of Engineering (Civil), Bachelor of Engineering (Civil)/Bachelor of Business, Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Arts, Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Business, Bachelor of Engineering (Mechanical), Bachelor of Engineering (Mechanical)/Bachelor of Arts, Bachelor of Engineering (Mechanical)/Bachelor of Business, Bachelor of Engineering (Product Design), Bachelor of Engineering (Robotics & Mechatronics), Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Applied Science (Computer Science & Software Engineering), Bachelor of Science (Biomedical Sciences), Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Technology (Air Transportation Management), Bachelor of Technology (Air Transportation Management)/Bachelor of Business, Bachelor of Technology (Aviation) and Bachelor of Technology (Aviation)/Bachelor of Business, Bachelor of Science (Photonics)/Bachelor of Science (Photonics), Bachelor of Engineering (Telecommunications & Internet Technologies)

**Aims & Objectives**

To develop in students a familiarity with selected areas of classical and modern physics, particularly those areas relevant to modern applied science.

**Content**

- Quantum mechanics and solid state physics - quantum phenomena, probability and wave functions.
- Time dependent and time independent Schrödinger equations.
- Applications of Schrödinger equation.
- Quantum states, energy levels and degeneracy.
- Reflection and transmission at a potential barrier - tunnelling, averages and the Heisenberg uncertainty principle.
- Many-body quantum mechanics.
- Identical particles and Pauli exclusion principle.
- Quantum distribution functions.
- Free electron theory.
- Fermi-Dirac distribution.
- Fermi level.
- Conductivity in metals.
- Failures of free electron model.
- Weak binding approximation.
- Forbidden energies and effective mass.
- Strong binding approximation.
- Band theory and intrinsic semiconductors.
- Extrinsic semiconductors and semiconductor devices.
- Electromagnetism and optics.
- Electric and magnetic fields and Maxwell’s equations.
- Scalar and vector potentials.
- Fields in dielectric.
- Magnetic and conducting materials.
- Polarization and magnetization.
- Constitutive relations.
- Maxwell’s equations in ’macroscopic form’.
- Energy in electromagnetic fields.
- Electrostatic problems.
- Solutions of Poisson’s equation.
- Magnetostatic problems electromagnetic waves in vacuum and in simple non-conducting and conducting media.
- Reflection and transmission at boundaries.
- Lasers and other light sources.
- Total internal reflection and optical wave guides.
- Optical fibre fundamentals, types of fibres and their transmission properties.
- Sources, modulators and detectors, communications via optical fibres.
- Holography and holographic optical devices.

**References**


Aims & Objectives
To develop further understanding of anatomy and physiological processes, as related to physiological measurements.

Content

References

HET148 Technology and Data Acquisition
12.5 Credit Points  1 Semester  4 Hours per Week  Hawthorn  Prerequisite: Nil
Teaching methods: Lectures, Tutorials, Laboratories and On-Line/Flexible Delivery.
Assessment: Examinations.
A subject in the Bachelor of Science (Biomedical Sciences), Bachelor of Arts, (Psychology/Psychophysiology) and Bachelor of Science (Psychology/Psychophysiology).

Aims & Objectives
Understanding of information technology, data acquisition and analysis applied to psychophysiology.

Content
This subject explores the technology associated with physiological monitoring, particularly computer based data acquisition and display. The concepts of signal acquisition and processing are introduced, along with analog to digital conversion and sampling theorem. Students are given the opportunity to operate all the necessary recording instruments in practical classes. The technology component of the subject looks at relevant information technology, particularly the Internet and WWW.

References
HET204  Photonics 3
12.5 Credit Points  1 Semester  5 Hours per Week  Hawthorn  Prerequisite: HET103 and HET203  Teaching methods: Lectures, tutorials, laboratory work  Assessment: Assignments, Examinations, Lab Reports.
A subject in the Bachelor of Science (Photonics), Bachelor of Science (Photonics)/ Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives
The aims of this subject are to provide students with a solid understanding of basic concept of optoelectronics, and an introduction to photonic devices.
Upon completion of this unit, students should be able to:
- Calculate characteristic physical parameters for various optical devices (e.g. coated optics, amplitude modulators, phase modulators, harmonic generation crystals etc.) based on their underlying operating principles.
- Select and characterise appropriate photonic transducers (sources/detectors) based on bandwidth, sensitivity and noise performance characteristics.

Content
- Thin-Film Optics.
- Beam Optics.
- Non-linear Optics.
- Electro-Optics.
- Acoustic Optics.
- Semiconductor Sources and Detectors.

Textbook

References

HET205  Introduction to Modern Optics
12.5 Credit Points  1 Semester  5 Hours per Week  Hawthorn  Prerequisite: HET103  Teaching methods: Lectures, tutorials, laboratory work  Assessment: Assignments, Examinations, Lab Reports.
A subject in the Bachelor of Science (Photonics), Bachelor of Science (Photonics)/ Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives
The aim of this subject is to provide students with a solid understanding of wave optics, including a detailed introduction to the fundamental principles of Fourier Optics and Imaging.
Upon completion of this unit, students should be able to:
- Describe and interpret interference and diffraction patterns.
- Use Fourier transform theory to predict and interpret imaging under various Fourier transform filtering conditions.
- Describe the concept of coherence for both coherent and non-coherent light sources describe the basic operating principles of holography and produce a practical hologram.

Content
- Fresnel Equations.
- Interference and Diffraction.
- Fourier Optics.
- Holography.
- Coherence.

Textbook

References
Aims & Objectives
The aim of this subject is to expose students to a number of computer modelling/simulation software packages (symbolic mathematics, data analysis, data acquisition etc.) and to explore complex problems in engineering and physics contexts via structured simulation projects. Additionally, students will also manage a major, open-ended team project, which will encourage the creative application and extension of the core material.

Upon completion of this unit, students should be able to:

- Use several common simulation software packages, and to select and apply the appropriate package to solve several science and engineering problems.
- Manage personnel and technical resources in an open-ended team project.
- Communicate project milestones and progress at weekly meetings, and present a research seminar upon project completion.

Content
- Statistics and the modelling process.
- Exploration of a selection of engineering and scientific problems (both theoretical and experimental) using a number of different modelling and simulation software packages (e.g. Mathematica, Matlab, LabView etc.).
- Major team project (building on experience gained in the fundamental modelling and simulation problems from the first session of the subject).

References

HET208 3D Animation and Special Effects
12.5 Credit Points 1 Semester 4 Hours per Week Hawthorn Prerequisite: Nil Teaching methods: Lectures, studio (computer laboratory) tuition with practical experience through exercises and set tasks. Assessment: Assignments, Practical work and CLAT test.
A subject in the Bachelor of Multimedia (Business Marketing), Bachelor of Multimedia (Media Studies), Bachelor of Multimedia (Networks & Computing), Bachelor of Multimedia (Multimedia Software Development) and Bachelor of Multimedia (Networks & Computing)/Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives
- To give students an overview of key concepts and production techniques.
- To provide an introduction to the creation and animation of objects using a popular 3D package.
- To provide insight into the art and business of the 3D industry.

Content
This subject provides an introduction to 3D modelling and animation using a commercial 3D graphics application. The practical component of the course will take the student through the steps required to create and animate objects, apply materials, lighting and other effects. The lecture series will cover the following topics:

- Fundamentals of 3-dimensional graphics and core concepts.
- Project planning, storyboarding and pre-production.
- Primitives and object topology.
- Modifying objects and modelling techniques.
- Shaders, texturing and materials.
- Lighting, environment and atmospheric effects.
- Basic keyframed and procedural animation.
- Particles and space warps.
- Rendering and post effects.
- Network rendering and management.
- The business of 3D.

References

HET210 Electronics
12.5 Credit Points 1 Semester 4.5 Hours Hawthorn Prerequisite: HET182 & HMT112 Teaching methods: Lectures, Tutorials and Laboratory Work Assessment: Assignments, Computer Managed Learning, Examinations, Prac.
A subject in the Bachelor of Science (Computer Science & Software Engineering) / Bachelor of Engineering (Telecommunications & Internet Technologies), Bachelor of Science (Biomedical Sciences), Bachelor of Engineering (Biomedical Engineering), Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Engineering (Telecommunications & Internet Technologies), Bachelor of Science (Research & Development)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Arts, Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Business, Bachelor of Engineering (Telecommunications & Internet Technologies), Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Engineering (Robotics & Mechatronics) and Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Applied Science (Computer Science & Software Engineering), Bachelor of Science (Photonics)/Bachelor of Science (Photonics)/Bachelor of Science (Photonics)/Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives
- To be familiar with the basic digital building blocks such as gates, flip-flops and counters.
• The ability to analyse and synthesise digital circuits of moderate complexity.
• To be familiar with the basic analog building blocks such as amplifiers, filters and non-linear circuits.
• The ability to analyse and synthesise analog circuits using operational amplifiers.
• To develop a basic understanding of discrete electronic components such as diodes and transistors.

Content

Analog Electronics:
• Introduction to Discrete Devices: Diode; VI Characteristics, Lumpled linear Models.
• Transistors: Large and Small Signal Models.
• Amplifiers: Input and output Impedance, Loading Effects, Voltage Gain, Current Gain, Power Gain, Frequency.
• Response Classifications, Bode Diagrams.
• Ideal Operational Amplifiers: Ideal Model, Unity Gain Buffer, Inverting, Non-inverting configurations, Summing and Differential Amplifiers, Integrators and Differentiators.
• Filters: Second Order Active Filters, LP, HP, BP Filter examples.
• Non Linear Op-Amp Applications: Clipping and Clamping Circuits, Precision Diode, Peak Detector, Comparators.

Digital Electronics:
• Combinational logic.
• SSI & MSI Building Blocks: Adders, Subtractors, ALU’s, Multipliers, Demultiplexers, Encoders, Decoders.
• Sequential Logic (Latches and Flip-flops), MSI building blocks (counters, registers, shift registers).
• Logic Devices and Family Characteristics: Fan out, loading, propagation delays and power dissipation.
• Logic levels and compatibility.
• Three-state and open collector outputs.
• Programmable Devices: ROMs, PLAs, PALS.
• The design of a CPU as a major application example.

Textbooks


HET210 Electronics Practical Manual 2001 Edn., Swinburne University of Technology Press.

References


HET212 Circuits

12.5 Credit Points • 1 Semester • 6 Hours per Week • Hawthorn • Prerequisite: HEMS112 and HET182 • Teaching methods: Lectures, Tutorials and Laboratory Work. • Assessment: Assignments, Examinations, Labs.
A subject in the Bachelor of Engineering (Biomedical Engineering), Bachelor of Science (Biomedical Sciences/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Arts, Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Business, Bachelor of Science (Research and Development)/Bachelor of Engineering (Electronics & Computer Systems).

Aims & Objectives

To develop circuit analysis skills which form the foundation of later electrical engineering subjects including electronics, controls, fields and power systems.

Content

• Review of circuit analysis techniques.
• Network theorems.
• Response of first order RC and RL circuits.
• Sinusoidal analysis.

• Power factor correction.
• Balanced three phase circuits.
• Introduction to two-port and three-port networks.
• Graphical solution of non-linear components.

References


HET218 Learning and Instructional Design

12.5 Credit Points • 1 Semester • 5.5 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures and Laboratory Work. • Assessment: Assignments, Projects.
A subject in the Bachelor of Multimedia (Business Marketing), Bachelor of Multimedia (Media Studies), Bachelor of Multimedia (Networks & Computing), Bachelor of Multimedia (Networks & Computing)/Bachelor of Engineering (Telecommunications & Internet Technologies) and Bachelor of Multimedia (Software Development).

Aims & Objectives

This subject provides an understanding of the psychological processes underlying our ability to process and learn information, along with an overview of the systematic approach to the design, implementation and evaluation of instructional programs. The understanding and skills gained in this subject will help students to design effective user environments for multimedia applications.

Content

• Processes underlying information processing: perception, memory, attention and thinking.
• Theories of learning: cognitive, behavioural and social perspectives, motivation for learning.
• Educational principles: assessment methods and learning styles, modes and strategies, instructional strategies and models, problem analysis, instructional analysis and design, measurement of performance, program evaluation.

References


HET219 Neurological Monitoring

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: HET102 and HET148 • Teaching methods: Lectures and Laboratory Work. • Assessment: Computer Based Tests, Examinations, Labs.
A subject in the Bachelor of Arts, (Psychology/Psychophysiology) and Bachelor of Science (Psychology/Psychophysiology).

Aims & Objectives

To provide an understanding of the techniques available for recording brain, and other electrical activity measures from the body, and to interpret the recorded information obtained from electrical activity measures.

Content

• Electrophysiological recording techniques including EEG, ENG, EMG, EOG, and ECG.
• International 10-20 system, electrodes and recording arrangements, spontaneous EEG, origins of the EEG, and the evoked potential, event-related potentials, recording and analysis techniques.
• Neurological clinical tests—application of EEGs, evoked potentials, integrity of pathways: sensory and motor. Lesion and stimulation studies.
• Measures of cognitive function: applications of ERP techniques to attention and cognition.
• Advanced instrumentation.
• Computer-based recording techniques.
• Advanced statistical analysis: experimental methodology and design.
• EEG and EP Mapping techniques.
• Methodological issues associated with the use of electrophysiological techniques.
• Definition of the terms magnetic flux, flux density, magnetic field intensity, reluctance, permeability and permanence.
• Study of series magnetic circuits.
• Permanent magnets, magnetic materials and B-H loops.
• Self and mutual inductance.
• Energy stored in a magnetic field.
• Energy density and the force between the faces of a magnet.
• Force on a conductor carrying a current in a magnetic field.

The Transformer:
• Construction of a single phase power transformer.
• Calculation of the size and number of turns for a given kVA rating.
• EMF equation and phasor diagram for the transformer.
• Definition and calculation of efficiency and voltage regulation.
• Introduction to the high frequency transformer and the pulse transformer.

The DC Machine:
• Construction of a DC machine and a description of the armature, commutator and field.
• EMF equation and torque equation.
• Permanent magnet and separately excited machines, series and shunt connections.
• Volt-amp characteristics for the DC generator and torque-speed characteristics for the DC motor.
• Calculation of the steady state performance of DC machines.
• Starting methods.

Power Electronics:
• Study of the characteristics of the power diode, and the thyristor family of devices to the conversion of an AC supply to a controlled DC supply.
• Prediction of current and voltage waveshapes associated with resistive and inductive loads connected to a controlled DC supply with and without a freewheeling diode.
• Application to the control of DC motors and other DC supplies for industrial equipment.

AC Machines:
• Introduction to the operation of the induction motor and the synchronous machine.

The Power System:
• Descriptive treatment of the interconnection of prime movers, generators, transformers, transmission lines, and consumers of electrical energy.
• The problem of harmonics generated by modern electronic equipment.

References

HET226  Sensory Systems

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: HET1132, and HMB213A recommended. • Teaching methods: Lectures, tutorials and practical work. • Assessment: Assignments, Examinations, Pracs.

A subject in the Bachelor of Science (Biomedical Sciences), Bachelor of Engineering (Biomedical Engineering), Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronic & Computer Systems), Bachelor of Arts, Bachelor of Science (Psychology)/Psychophysics and Bachelor of Science (Psychology)/Psychophysics.

Aims & Objectives
To introduce the final component of the human sensory neurosciences and to examine higher cortical function associated with normal and dysfunctional brains.

Content
• Vision, gross anatomy, micro structure of retina, regulation of pressure, visual pathways, cortical and subcortical areas, evoked potentials, control of eye movements.
• Visually evoked potentials: Evoked potentials of cognition.
• Auditory and vestibular: gross anatomy of ear; cochlear, hair cells, labyrinths, coding of auditory information, cortical and subcortical areas, vestibular systems, optokinetic reflex.
• Auditory evoked potentials: brainstem, clinical testing.
References
1998.

HET227 Neurophysiology
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite:
HET133 and HET148 or HET182 • Teaching methods: Lectures, Manuals and Laboratory
Work. • Assessment: Assignments, Examinations, Pracs.
A subject taught in the Bachelor of Science (Biomedical Sciences), Bachelor of
Engineering (Biomedical Engineering), Bachelor of Science (Biomedical Sciences)/
Bachelors of Engineering (Electronics & Computer Systems), Bachelor of Arts,
(Pharmacy/Physiotherapy) and Bachelor of Science (Psychology/Physiotherapy).
Aims & Objectives
To provide students with an understanding of human neuroanatomy, peripheral and
central motor systems, tactile sensory systems and the application of techniques and
instrumentation for monitoring brain activity.

Content
- Neuroanatomy: spinal organisation and structure, pathways.
- Somatosensory system: receptors to touch, pressure, pain, temperature.
- Sensory potentials and frequency coding in the CNS
- Major afferent pathways; subcortical and cortical regions, sensory homunculus,
sensory areas SI, SII, psychophysics, perception.
- Pain pathways and endogenous analgesia, pain suppression.
- Information processing: channel capacity, psychophysics.
- Neuropharmacology: Introduction to receptors, receptor activation, major anti-
- depressant classes; drug dynamics, clearance, routes of administration, drug
treatment in some clinical disorders.
- Neuroendocrinology: Introduction to interactions between nervous system and
hormones, effects on metabolism and arousal, hypothalamic pathways, pituitary-
hypothalamic interactions and axis, hypothalamic-pituitary-adrenal axis, control
and homeostasis.

References
Guyton, A.C., Hall, J.E., Textbook of Medical Physiology, 9th Edn., Saunders, Philadelphia,
1996.

HET229 Computer Authoring
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil •
Teaching methods: Lectures, Seminars and Laboratories. • Assessment: Assignments,
Class presentations.
A subject taught in the Bachelor of Multimedia (Business Marketing), Bachelor of Multimedia
(Media Studies), Bachelor of Multimedia (Multimedia Software Development), Bachelor of
Multimedia (Networks & Computing) and Bachelor of Multimedia (Networks &
Computing)/Bachelor of Engineering (Telecommunications & Internet Technologies).
Aims & Objectives
To introduce students to computer authoring techniques, with particular emphasis on
digital video and audio.

Content
- Information architecture principles and computer based authoring.
- Digital video: storyboarding and preproduction, production and postproduction
- techniques.
- Digital audio: preproduction, production, and postproduction techniques.
- Authoring for video and audio streaming environments.

References
Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Science (Research and Development), Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Arts, Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Business, Bachelor of Engineering (Robotics & Mechatronics), Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Engineering (Telecommunications & Internet Technologies) and Bachelor of Multimedia (Networks & Computing)/Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives
To understand the basic architecture of microcontrollers, and to be able to use these devices in practical applications. The course will be structured around the Motorola 68HC11 microcontroller. The programming languages used include Assembly Language and C. Investigative, design and problem solving skills will be emphasised.

Content
Introduction to Microcontrollers:
- The Motorola 68HC11: overview, configuration, instruction set, programmable timer subsystem, interrupts, serial peripheral interface, A/D converter expansion methods - I/O ports, memory and timing diagrams.
- Expansion methods - I/O ports, memory and timing diagrams, interfacing components.
- Memory interfacing and timing.
- Memory decoding and buffering.
- Software building blocks - queues, tables, strings, state machines.
- Design and interface examples.

References
Aims & Objectives
To establish an understanding of the respiratory and renal physiological processes and the application of monitoring techniques and instrumentation.

Content
Respiratory System:
- Structure and function.
- Lung volumes and dead space.
- Diffusion.
- Blood flow.
- Ventilation perfusion inequality.
- Gas transport.
- Bohr and Haldane Effects.
- Acid/base balance.
- Respiratory mechanics.
- Control of respiration.
- Lung function testing and lung diseases.
- Obstruction.
- Restriction.
- Flow/volume curves.
- Diffusion capacity.
- Compliance.
- Body plethysmography.

Renal Biophysics:
- Exercise Biophysics: respiratory changes associated with exercise.
- Anaesthesia: agents and their administration.
- Monitoring, physiological effects of anaesthesia.

Sleep monitoring:
- Monitoring the respiratory processes associated with sleep, and disorders of sleep.
- Neonatal monitoring.
- Basic EEG.

Renal Biophysics:
- Vasculature.
- The juxtaglomerular apparatus.
- Kidney function tests.
- Countercurrent multiplication.
- Control of kidney function.
- Renal pathophysiology.
- The artificial kidney.

References

HET305 Research & Development Project 3
12.5 Credit Points • 1 Semester • Students are expected to spend a day per week during semester working on their project in the research centre/group concerned, except by agreement with the project supervisor. • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Class presentations.
A subject in the Bachelor of Science (Research and Development)/Bachelor of Engineering (Electronics & Computer Systems).

Aims & Objectives
To develop within the student:
- An understanding of the scientific research method.
- Practical research skills.
- Practical design and development skills in a research environment.

Content
Students will undertake a substantial project, usually as part of a team of students or based within a research group in the university or external industrial research establishment. A variety of projects will be made available to the student. In exceptional cases, students may negotiate to pursue a project of their own with the agreement of the subject convenor.
While projects will be of a substantial scientific research nature, they are generally expected to include the need to develop hardware or software systems. A regular seminar series, featuring key internal and external researchers, may be offered. These seminars could cover specific research topics or aspects of research project management and generic research skill development.

HET310 Analog Electronics Design
12.5 Credit Points • 1 Semester • 5.5 Hours per Week • Hawthorn • Prerequisite: HET210 • Teaching methods: Lectures, Tutorials, Practical, Laboratory and Project Work. • Assessment: Assignments, Examinations, Pracs.
A subject in the Bachelor of Science (Biomedical Sciences), Bachelor of Engineering (Biomedical Engineering), Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Arts, Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Business, Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Information Technology, Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Biomedical Sciences.

Aims & Objectives
- To provide the student with a variety of applications-oriented analog electronic design skills.
- To provide insights into design issues related to component variability, and into the behaviour of semiconductor functional blocks commonly used in integrated and discrete analog circuits.
- To introduce solid state device characteristics with particular emphasis on analog integrated circuit characteristics and the uses of analysis and simulation.

Content
- BJT - models, biasing, DC and AC analysis and applications.
- Multi-transistor amplifiers - cascode, differential pair, etc.
- Current sources.
- Frequency response of amplifier circuits.
- Signal generators - oscillators, Schmitt triggers and multi-vibrator circuits.
- Feedback.
- A/D and D/A internal operation.
- Computer-aided analysis of analog circuits using PSPICE.
- MOSFET's - models, biasing, DC and AC analysis and applications.
- Power Electronics.
- Devices - Diodes, BJT's, SCR's, Triacs, GTO's, BJTs and MOSFET's.
- Applications: Controlled rectification, inversion and pulse width modulation, switch mode power supplies and heatsinks.

References

HET312 Control and Automation
12.5 Credit Points • 1 Semester • 5.5 Hours per Week • Hawthorn • Prerequisite: HMS213 • Teaching methods: Lectures, Tutorials and Laboratory Work. • Assessment: Assignments, Examinations, Pracs.
A subject in the Bachelor of Science (Biomedical Sciences), Bachelor of Engineering (Biomedical Engineering), Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Business, Bachelor of Science (Research and Development)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Robotics & Mechatronics) and Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Science (Computer Science & Software Engineering).

Aims & Objectives
- To develop techniques to formulate models to represent a linear dynamic system.
- To predict the dynamic response of a linear system to a variety of inputs using analytical tools.
- To introduce the concept of feedback in a linear system and to emphasize its advantages using specialised analytical techniques.
- These aims will be enhanced in a practical sense by laboratory assignments.
Content
System Concepts:
- Introduction to the concept of a system as a connection of elements.
- Electrical, mechanical and thermal elements and their basic physical relationship.
- Formulation of system equations to form a system model.
- Definition of a linear system applied to practical examples of open and closed loop systems.

Analysis of Linear Systems: The following analytical techniques are developed so that the dynamic response of a single input single output system may be predicted for a variety of input signals.
- Classical solution of differential equations.
- Solution of differential equations using Laplace transform techniques.
- Formulation of a system transfer function.
- Electronic analogues and their application to modelling dynamic systems.
- Frequency response techniques-analysis from the S-plans and Bode Diagrams.
- An introduction to state variable analysis.
- Application of specialist computer packages such as Matlab.

Feedback of Control Systems:
- Basic concepts of negative and its advantages.
- Analysis of feedback control systems using specialized techniques, root locus diagrams and frequency response analysis.
- Steady state performance using the final value theorem.
- Basic compensation techniques using tacho-feedback and PID controllers to improve the dynamic and steady state performance.
- Criteria for stability.
- Determination of stability from the s-plane and from Bode plots, gain margin and phase margin. Introduction to control system design to meet a set of specifications.

References
- Swinburne University of Technology | Higher Education Handbook 2002
Electromagnetic safety and standards.
EMI radiation and EM compatibility, shielding and noise reduction techniques.
Microwaves for industrial and communication purposes.
Step and pulse transmission in cables, TDR.
Transmission line effects.
TEM wave propagation in free space, velocity, impedance.
Review of relevant circuit theory.

Content
- Digital communication systems, discrete sources and entropy, channel and channel capacity.
- Run-length-Limited Codes.
- Linear Block Error-Correcting Codes.
- Cyclic Codes.
- Convolutional Codes.
- Trellis-Codes Modulation.
- Turbo-coding (if time permits).
- Information Theory and Cryptography.
- Shannon's Coding Theorems.

Textbook

References

HET316 Electromagnetic Waves
12.5 Credit Points  • 1 Semester  • 5.5 Hours per Week  • Hawthorn  • Prerequisite: HME2214  • Teaching methods: Lectures, Tutorials and Laboratory Work  • Assessment: Assignments, Examinations, Pracs.
A subject in the Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Engineering (Biomedical Engineering), Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Telecommunications & Internet Technologies) and Bachelor of Multimedia (Networks & Computing)/Bachelor of Engineering Telecommunications & Internet Technologies.

Aims & Objectives
- To become familiar with the concepts and applications of electromagnetic wave theory.
- To become familiar with methods used for wireless and wired communications including radio frequency antennae and microwave propagation technology.
- To become familiar with Magnetic Vector Potential.
- Minimising undesired electromagnetic propagation.
- Brief description of Waveguides.

Content
- Review of relevant circuit theory.
- Maxwell's Equations.
- Time varying electromagnetic field theory.
- TEM wave propagation in free space, velocity, impedance.
- Transmission media: wire pairs, coaxial cables.
- Transmission line effects.
- Step and pulse transmission in cables, TDR.
- Radio frequency terrestrial propagation, free space path loss, antennae, atmospheric refraction, earth curvature effects, diffraction, multipath and fading.
- Microwaves for industrial and communication purposes.
- EMI radiation and EM compatibility, shielding and noise reduction techniques.
- Magnetic Vector Potential.
- Electromagnetic safety and standards.

References


HET320 Psychophysiological Project
12.5 Credit Points  • 1 Semester  • Variable depending upon project typically an average of 1 Hour per Week  • Hawthorn  • Prerequisite: HET327 or HET328  • Teaching methods: Student Research  • Assessment: Report, Seminar.
A subject in the Bachelor of Science (Psychology/Psychophysiology) and Bachelor of Arts (Psychology/Psychophysiology).

Aims & Objectives
To apply skills to a research project within the area of psychophysiology.

Content
This subject gives the students the opportunity to apply techniques and skills introduced in the psychophysiology and psychology disciplines. Students will work in small groups to plan and review the literature, and carry out the experimental and analytical work involved. Most projects undertaken involving human subjects will also require approval from the human experimental ethics committee.

HET329 Digital Signal and Image Processing
12.5 Credit Points  • 1 Semester  • 5.5 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Lectures, Tutorials and Practical Sessions  • Assessment: Examinations, Pracs.
A subject in the Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Science (Biomedical Sciences), Bachelor of Engineering (Biomedical Engineering), Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Science (Research and Development)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Arts, Bachelor of Engineering (Electronics & Computer Systems) /Bachelor of Business, Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Robotics & Mechatronics) Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Applied Science (Computer Science & Software Engineering), Bachelor of Engineering (Telecommunications & Internet Technologies) and Bachelor of Multimedia (Networks & Computing)/Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives
The objective is to introduce the principles of signal processing, with an emphasis on discrete signal and image processing. The theoretical basis for linear processing schemes is presented together with discussions of a range of common algorithms and their implementations and uses.

Content
- Continuous time signals and systems.
- Fourier analysis.
- Continuous systems, Linearity and Time-invariance.
- Response of LTI systems, Stability and Causality, Rational systems.
- Noise.
- Sampling and the sampling theorem.
- Practical aspects of sampling and reconstruction.
- Discrete time signals.
- Basic operations on signals.
- Discrete Time Fourier Transform, the DFT and the FFT.
- Discrete LTI systems and discrete linear convolution.
- FIR and IIR systems.
- Difference equations and their solutions.
- The z transform and its application to discrete time system analysis.
- Rational z transforms and the response of pole-zero systems.
- Structures for realising Discrete LTI systems.
- Ideal filters.
- Causality and stability constraints.
- Rational transfer functions and approximations to ideal filters.
- Design of FIR filters, Non-recursive FIR realisations.
- Linear phase filters.
- Use of DFT.
- Recursive FIR realisations.
- Design of recursive IIR filters.
- Digital integration and differentiation.
- Spectral Analysis of Continuous Signals.
- Power and energy spectral densities, the spectra of random processes and the measurement of spectra.
- Discrete time spectral analysis.
- Calculation of spectra using the DFT.
- Introduction to parametric spectral estimation.
- Correlation techniques, matched filters, signal compression, non-linear processing, DSP hardware.
- Image Processing.
- Grey level resolution, spatial resolution, contrast and brightness.
- The video signal. Digital images, frame grabbers, colour images.
- Grey level mapping, histograms, point processes and convolution.
- 2D spatial frequency, the Fourier transform and filtering.
- Image segmentation.

References


HET336 Network Engineering

12.5 Credit Points  1 Semester  5.5 Hours per Week  Hawthorn  Prerequisite: HEMS214  Teaching methods: Lectures, Tutorials and Laboratory Work  Assessment: Assignments, Examinations, Pracs.

A subject in the Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Applied Science (Computer Science & Software Engineering), BEng (Telecommunications & Internet Technologies) and BN Multimedia (Networks & Computing)/BEng (Telecommunications & Internet Technologies).

Aims & Objectives

The student should be able to examine the performance of various telecommunication networks subject to stochastic traffic, by applying relevant queueing theory, and design networks using graph and queueing theory.

Content

- Introduction to Networks and their Design: Types of networks, design issues, design support data, design tools.
- Review of Random Processes: The Poisson Process Proof of Poisson distribution; Properties of Poisson distribution: normalisation, mean, variance, time to first event; Sums of Poisson processes; Memoryless processes.
- Link Models for Circuit Switching.
- Telephone traffic: call initiation, length of calls, traffic and the Erlang Loss function, blocking probability, carried traffic, lost traffic, grade of service, time congestion vs call congestion, PASTA, trunking efficiency, validity of the Erlang loss function, The Engset model, state distribution, time congestion, call congestion, properties of the Engset model. Circuit switched link dimensioning.
- Link Models for Packet Switching: The M/M/1 queue, queue length distribution, mean queue length, mean delay, Little’s formula; M/M/1 queue with finite buffer; State-dependent queues: M/M/2, M/M/4.
- Packet switched link dimensioning.
- Modelling networks as graphs: terminology, representation of networks, computational complexity.
- Graph algorithms.
- Trees, shortest paths, single commodity network flows.
- Centralised Network Design.
- Problem definition, terminal assignment, concentrator location.
- Routing and Flow control Routing procedures, flow deviation algorithm.
- Network layer protocols, analysis of sliding window flow control.
- Network Reliability, Tree networks, mesh networks.

References


HET343 Mechatronics

12.5 Credit Points  1 Semester  5.5 Hours per Week  Hawthorn  Prerequisite: HET332  Teaching methods: Lectures and Project Work  Assessment: Class presentations, Examinations, Project(s), Project Report.

A subject in the Bachelor of Engineering (Robotics & Mechatronics) and Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Science (Computer Science & Software Engineering).

Aims & Objectives

- To bring together aspects of design in mechanical and electrical/electronics systems so that the student may have a good idea of the range of techniques available in designing a mechatronic system.
- To apply the knowledge and skills obtained in the previous two years of the course to the solution of real-world problems. By doing this the student will be involved in considering the practical partitioning of a system between software, mechanical and electrical/electronic components.
- To further develop team skills in co-operation, co-ordination and scheduling of time and resources.

Content

Design of ratings (dimensioning) of electrical and mechanical components for a variety of applications. Review of:

- Mechanical transmission (Gears, belts & pulley drives).
- Electrical machines and industrial applications.
- Power electronics (Pulse width modulation, regenerative braking, electrical switching devices).
- Methods of speed control (electrical and mechanical methods).
- Transducers for position, velocity, temperature etc. (Analogue and Digital).
- Real time constraints in programming embedded systems.
- The use of multitasking and event driven programming.
- The use of CAE Tools in Electronics Design.

References


HET378 Integrated Circuit Design

12.5 Credit Points  1 Semester  5.5 Hours per Week  Hawthorn  Prerequisite: HET431  Teaching methods: Lectures and Practical Work  Assessment: Class presentations, Examinations, Pracs.

A subject in the Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Science (Research and Development)/Bachelor of Engineering (Robotics & Mechatronics) and Bachelor of Engineering (Electronics & Computer Systems).

Aims & Objectives

To provide students with an understanding of the current trends in High Level Synthesis using Hardware Description Languages (HDL) and the methodologies involved in the design and integration of complex systems using computer-aided design tools.

Content

- Microelectronics design methodologies (ASIC and FPGA).
- Issues involved in High Level Synthesis.
- Hardware Description Language (VHDL) features.
- VHDL modelling techniques: structural and behavioural models.
- System implementation strategies.
The projects involve group work. The ability to work effectively as part of a team is an important attribute in the multimedia industry, and will be a consideration in the assessment of projects. It is expected that wherever possible each project group will be liaising with an external client. Where necessary, and at the discretion of the course coordinator, an external project adviser may be appointed.

References

HET404 Multimedia Systems

12.5 Credit Points • 1 Semester • 4.5 Hours Per Week (average) • Hawthorn • Prerequisite: Examinations, Labs, Tests.

A subject in the Bachelor of Multimedia (Business Marketing), Bachelor of Multimedia (Media Studies), Bachelor of Multimedia (Networks & Computing), Bachelor of Multimedia (Networks & Computing)/Bachelor of Engineering (Telecommunications & Internet Technologies) and Bachelor of Multimedia (Software Development).

Aims & Objectives
• To introduce students to a range of technologies used in multimedia systems.
• To make the students aware of existing standards and basic techniques related to the recording and reproduction of sound and vision.

Content
• Information Representation: Analog and digital information, Types of information, data images and sounds.
• Information compression and Transmission: Analog and digital signals, Radio, TV, satellite, Cable, telephone, fibre optics, Computer busses and ports. Compressed signals.
• Information Storage: Analog recording, digital recording, magnetic disks, CD and DVD systems.
• Virtual Reality: Input and output devices, applications.

References
HET406 Multimedia Data Processing
12.5 Credit Points • 1 Semester • 5.5 Hours • Hawthorn • Prerequisite: Nil • Corequisites: HET208 • Teaching methods: 36 hours of lectures, 12 hours of tutorials, 4.33 hours of laboratory sessions • Assessment: 15% Assignments, 70% Examinations, 15% Laboratory work. A subject in the Bachelor of Engineering (Electronics and Computer Systems).

Aims & Objectives
To develop a thorough understanding of the standard algorithms used for compression of the multimedia data including text, images, audio and video with a focus on the software/hardware implementation.

Content
- Introduction to information theory.
- Entropy.
- Loss-less and lossy compression.
- Measures of performance.
- Huffman coding algorithm.
- Basic Algorithm.
- Minimum variance Huffman codes.
- Adaptive Huffman coding.
- Arithmetic coding, Generating a binary code.
- Integer implementation.
- Applications to image compression.
- Vector quantization.
- Differential coding.
- Transform coding (Discrete cosine transform) and application to Image compression (JPEG).
- Video and Audio compression.

References

HET408 Biomedical Imaging and Emerging Technologies
12.5 Credit Points • 1 Semester • Average weekly contact of 3 Hours per Week • Hawthorn • Prerequisite: HET128 and HMS213 • Teaching methods: Lectures, Tutorials and Laboratory Work • Assessment: Assignments, Examinations, Pracs. A subject in the Bachelor of Science (Biomedical Sciences), Bachelor of Engineering (Biomedical Engineering) and Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems).

Aims & Objectives
To gain a solid theoretical understanding of the physics and mathematics associated with major imaging modalities currently used in clinical and biomedical research settings, together with a review of new technology and its possible applications to medicine.

Content
- Biomedical Imaging: Image reconstructions from projections, diagnostic ultrasound, Doppler ultrasound, Projection Radiography, Magnetic Resonance imaging (MRI), Spatially localised Spectroscopy, radiosotope imaging, gamma scintigraphy, emission computed tomography, miscellaneous imaging modalities.
- General aspects of image display.
- Laser scanning confocal microscopy: multiphoton imaging Nano technology.
- Fabrication methods including excimer laser.
- Physical properties of biological materials: visco-elastic properties.
- Methods of static and dynamic testing of bone, skin, muscle, arteries etc.
- Cell-cell adhesion, CAMs, adhesion to non living materials.
- Power sources for implantable medical devices: packaging, battery life and power density.
- Examples of biocompatible materials: woven fabrics, PMMA, ceramics, fibres, metals. Electrode materials.
- Examples of devices: cochlear implant, glucose sensors, optical and membrane-based biosensors, implantable pumps operated by feedback.
- Rehabilitation Technology: gait analysis.

References

HET409 Advanced Multimedia
12.5 Credit Points • 1 Semester • 5.5 Hours per Week • Hawthorn • Prerequisite: HET208. This subject must be taken in the final stage of the course. • Teaching methods: Lectures, tutorials and laboratory work. • Assessment: Assignments discussion forum contributions, Laboratory work. A subject in the Bachelor of Multimedia (Business Marketing), Bachelor of Multimedia (Networks & Computing), Bachelor of Multimedia (Media Studies), Bachelor of Multimedia (Software Development) and Bachelor of Multimedia (Networks & Computing)/Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives
This subject explores emerging issues in multimedia.

Content
- Advanced 3D animation and modelling - character animation.
- eCommerce developments.
- Digital video and streaming technologies.
- Digital audio and streaming technologies.
- Interactive TV.
- Exploiting higher bandwidth networks.
- Emerging multimedia authoring tools.
- Establishing a multimedia startup.
- Emerging broadband internet technologies.

References

HET410 Network Administration
12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Tutorials and Practical Sessions • Assessment: Examinations, Tests. A subject in the Bachelor of Engineering (Electronics and Computer Systems). Aims & Objectives
- To introduce administration issues in Information System Environment.
- Network planning.
- Installation.
- User and domain management.
- System performance tuning.
- Security.
- Intranet/Internet (web server).
- Hardware considerations.

Content
- General and advanced network configuration, including DNS, DHCP, routing.
- User management and access control.
- File systems, including striped and fault-tolerant file systems.
- Sharing file systems via the network.
- Disk configuration and administration.
- Effective backup and restore system.
- Managing printers, including local printers, network printers, and printer pools.
- Managing processes, performance optimisation and capacity planning.
- Securing systems, including implementing security policies and system auditing.
- Automating system administration tasks with scripts.
- Secure connection technologies over regular Internet - Virtual Private Network (VPN).
- Remote network access.
• Web server installation and configuration.
• System management tools.
• Trouble-shooting and maintenance.

References

Students should be aware that resource materials (texts and laboratory material) required for this subject may cost up to $200.

Microsoft Official Curriculum
SBBB Accelerated Training for MS Windows NT 4.0 - BO3 + 922.

HET416  Computer Systems Engineering

12.5 Credit Points  • 1 Semester  • 5.5 Hours per Week  • Hawthorn  • Prerequisite: HET232 & HET431 & HT3030 • Teaching methods: 38 hours of lectures, 12 hours of tutorials, 10 hours of project work.  • Assessment: Examination 70%, Assignments 15% and Project 15%.

A subject in the Bachelor of Engineering (Electronics and Computer Systems).

Aims & Objectives
To develop an understanding of computer system design, particularly the relationship between hardware and software on system performance.

Content
• Fundamentals of computer design: Chapter 1.
• Instruction design and its consequences on architecture: Chapter 2.
• Examples of CISC and RISC architectures: Appendix C and Appendix D.
• Overview of pipelining: Chapter 3 and Chapter 4.
• Memory-Hierarchy design: Chapter 5 and Chapter 6.
• Interconnection Networks: Chapter 7.
• Multiprocessors: Chapter 8.
• The NC and NetPC: IEEE Micro.
• Vector processors: Appendix B.

Textbook

References

HET417  Photonics and Fibre Optics

12.5 Credit Points  • 1 Semester  • 4.3 Hours per Week  • Hawthorn  • Prerequisite: HET128 or HMS213 • Teaching methods: Lectures, Practicals and Tutorials.  • Assessment: Assignments, Examinations, Pracs.

A subject in the Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Engineering/Computer Systems), Bachelor of Engineering (Telecommunications & Internet Technologies) and Bachelor of Multimedia (Networks & Computing)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Science (Photonics), Bachelor of Science (Photonics)/Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives
To give students a broad outline of basic photonics principles and fibre optics applications, especially in the areas of communications and sensing. It is assumed that students already have an understanding of the basic principles of physics. After completing this subject, students should have a basic understanding of:
• Models of light.
• The history of fibre optics.
• Fibre optics operating principles and manufacture.
• Light sources and detectors.

• Light modulation.
• Transmitters and receivers.
• Fibre optic components.
• Fibre optic telecommunication systems.
• Fibre optic sensors and imaging.

For further information about this subject, visit its home page at: www.swin.edu.au/bsee/ma8/photonics/

Content
• Overview and historical introduction.
• Models of light used in Photronics.
• Optical fibre basics (including fibre modes and transmission speeds, numerical aperture, transmission and attenuation, bandwidth and dispersion).
• Optical fibre manufacture (including production methods, fibre types and cabling).
• Incoherent light sources (including wideband and line sources, electroluminescence).
• Lasers light sources (including lasing mechanism, laser resonant cavities, mode structure, laser types).
• Light detectors (including thermal & quantum detectors).
• Detector circuits.
• Modulation of light.
• Fibre optics transmitters and receivers.
• Fibre optic components.
• Critical fibre testing and measurement.
• Fibre optic telecommunications systems.
• Simple fibre optic sensors and imaging.
• Simple F0 sensors for measurement of temperature, pressure, position.
• Interferometric fibre optic sensors, including the fibre optic gyroscope and Bragg grating sensors.

References

HET419  Physiological Modelling

12.5 Credit Points  • 1 Semester  • 6 Hours per Week  • Hawthorn  • Prerequisite: HET128 or HMS213 • Teaching methods: Lectures, Practicals and Tutorials.  • Assessment: Assignments, Examinations, Pracs.

A subject in the Bachelor of Science (Biomedical Sciences), Bachelor of Engineering (Biomedical Engineering) and Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems).

Aims & Objectives
To gain a solid theoretical understanding of the physics, mathematics and computational techniques associated with modelling human physiological processes.

Content
• Physiological control systems control theory, signal flow diagrams, fundamental block representations, open-loop gain.
• Computer packages for solutions of ordinary differential equations. The MATLAB package and SIMULINK software.
• Dynamic responses Bode and Nyquist analysis, transfer function discovery-examples of physiological investigations.
• Cardiovascular system, mathematical models of the arterial system.
• Respiratory and thermal control.
• Multicompartment systems and methods analysis, models of membrane systems, channel statistics.
• Modelling of endocrine systems.
• Volume conductor theory: application to the EEG.
• Neurovolume conductors, models of brain electrical and magnetic activity.
• Modelling techniques.
• Application of control system techniques to human physiology.
• Compartmental analysis, statistical channels.
• Neural modelling, neural networks.
HET423 Intelligent Systems
12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Tutorials and 'Take-Home' Laboratory Work. • Assessment: Assignments, Examinations.
A subject in the: Bachelor of Science (Biomedical Sciences) and Bachelor of Engineering (Electronics & Computer Systems).

Aims & Objectives
- To introduce students to artificial neural networks and their application to a range of problems. The range of networks includes back propagation, specialist classification networks, self-organising networks, together with a range of more advanced networks involving more biologically plausible networks. Sample applications are drawn from medicine, science and engineering.
- To introduce students to techniques involving the application of the principles of Darwinian evolution to design and optimisation problems.
- To introduce students to collective intelligence algorithms and their applications.

Content
- Neural networks; artificial neural networks and the brain.
- Artificial neurons.
- Learning rates.
- The importance of non-linear output transformations.
- Three basic node types.
- The back propagation learning algorithm and practical implementation considerations.
- Enhancements to back prop - cumulative update and momentum, and applications.
- Using fuzzy inputs and outputs to a neural net.
- Classification networks: PNN, Counterprop, LVQ, cluster networks and applications.
- Divide and conquer networks: cascade networks, ensembles of networks and applications.
- Data compression networks and applications.
- Self organising maps and applications.
- More biologically plausible neurons.
- Evolutionary systems.
- An introduction to Darwinian evolution.
- The basic evolutionary algorithm - example.
- Crossover rates and type; mutation types.
- Population control strategies.
- Examples in scheduling function optimisation look up table generation.
- Robot algorithm development.
- The problem of premature convergence.
- Evolutionary systems and neural nets - developing net structure, auto-designing.
- Fuzzy membership functions using nets inside an evolutionary system.
- Speeding evolutionary algorithms - parallelising, population seeding, the importance of a local heuristic.
- Optimum partitioning of problems - hierarchical evolutionary algorithms.
- Information dense chromosomes and their advantages and disadvantages and examples.
- Evolution of neural network revisited.
- Simultaneous evolutionary and algorithmic development of solutions.
- Collective intelligence: the role of stygmergy.
- The Art Colony Optimisation and Particle Swarm Algorithms.

A subject in the Bachelor of Multimedia (Networks and Computing), Bachelor of Multimedia (Networks and Computing)/Bachelor of Engineering (Telecommunications and Internet Technologies), Bachelor of Engineering (Telecommunications and Internet Technologies), Bachelor of Engineering (Telecommunications and Internet Technologies)/Bachelor of Science (Computer Science and Software Engineering).

References


HET425 Nucleonics and Spectroscopy
12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: HET182 or HET118 or HET124 • Teaching methods: Lectures and Practicals. • Assessment: Assignments, Examinations, Practicals.
A subject in the Bachelor of Science (Biomedical Sciences), Bachelor of Engineering (Biomedical Engineering), Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems) and Bachelor of Science (Research and Development)/Bachelor of Engineering (Electronics & Computer Systems).

Aims & Objectives
Students will be introduced to a number of spectroscopic techniques with an emphasis on Nuclear techniques and instrumentation, and interactions of electromagnetic radiation with matter. The subject has a large practical component where students will gain knowledge and experience in techniques used daily in industry, medicine, laser optics and materials analysis.

Content
Nucleonics:
- Theory.
- Historical perspectives.
- Safety.
- Background to practicals.
- Detector technology.

Applications:
- Medicine (including PET, radiotherapy, X-rays, radiotherapy).
- Material science.
- Silicon manufacture.
- Accelerators.
- Reactors.
- Domestic applications (including smoke detectors).
- Radiation doses.

Spectroscopy:
- Effects of oscillating fields on materials.
Absorption, dispersion.
- Scattering and reflection of radiation.
- Molecular rotation and vibration.
- Electron interactions.
- Optical activity.
- X-rays.
- Lasers.
- Mossbauer.

Seven practicals:
- Beta particle absorption.
- Factors affecting radiation measurement.
- Gamma ray spectroscopy.
- High purity germanium detectors.
- Neutron activation analysis.
- Silicon surface barrier detector.
- Time coincidence measurements.

References
ANKO ORTEC Practical Manual.
Wehr, M.R., Elementary Modern Physics, Addison-Wesley.

HET426 Instrumentation Project
12.5 Credit Points  1 Semester  5.5 Hours per Week  Hawthorn  Prerequisite: HET431 Digital Electronic Design

A subject in the Bachelor of Science (Biomedical Sciences).

Aims & Objectives
The aim of this course is to develop independent learning through practical investigation. The project develops thorough technical skills in a particular chosen area and develops leadership and communication skills.

HET431 Digital Electronic Design
12.5 Credit Points  1 Semester  5.5 Hours per Week  Hawthorn  Prerequisite: HET210 Teaching methods: Lectures, Tutorials and Laboratory Work  Assessment: Assignments, Examinations, Pracs, Project Report and Seminar Presentation

A subject in the Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives
The student should be able to:
- Apply the OSI model to describe, in detail, data communication between 2 PCs.
- Compare and contrast the details of Layers 1 through 7 in the context of Ethernet and IP.
- Compare and contrast LANs and WANs, layer by layer.
- Compare and contrast static versus dynamic routing, routed protocols versus routing protocols, and distance vector versus link state routing.
- Explain how to work with 11.x configure files, compare and contrast router config modes, and flowchart 11.x config files; perform a basic router configuration.
- Flowchart and explain the sources for IOS software; load CISCO IOS software from flash, a TFTP server, and ROM.
- Explain TCP (segment format, port #, handshakes) and IP (IP datagrams, ICMP, ARP, RARP); monitor ARP tables and remotely troubleshoot a router.
- Address and configure a network.
- Compare and contrast static and dynamic routing, routed and routing protocols, IGPs and EIGPs, and RIP and RIPv2; add RIP and RIPv2 to the router configuration.
- Explain the details of LAN switching and compare and contrast segmentation with bridges, switches, and routers; build simple LANs involving switches and access the switch.
- Explain why VLANs are used and how they are achieved by switches; configure switches to create VLANs.
- Design a size-specific LAN, justifying and documenting design decisions; develop an IP addressing scheme for a school-district WAN and LANs.

Content
- Review: The OSI Model, LANs, layers 1-7, WANs.
- Routing, Using the Router, Router Components.
Multiple Access systems and cellular standards: GSM, CDMA, WCDMA and Digital modulation for cellular mobile systems: Overview of factors influencing Mobile radio signal propagation: large scale path loss, shadowing, propagation

Analyse and critically evaluate performance of systems and sub-systems.

Computing)/BEng (Telecommunications & Internet Technologies).

Bachelor of Science (Computer Science & Software Engineering) BEng A subject in the Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Multimedia (Networks & Computing)/Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives

The aim of this subject is to explore the key ideas of the emerging high speed broadband networks, and the mixed services and traffic types they carry. The significance of broadband capability is explored, together with its promises and difficulties, including some important unsolved problems.

Content

This subject is expected to adapt in response to emerging issues. It is concerned broadly with two major issues in current and future high speed broadband networks - the ability to deliver properly managed and differentiated quality of service and the drive for higher speed access to support more diverse multimedia applications. In both areas there are difficult technical challenges, and techniques continue to evolve over time.

References

Cisco Networking Academy On-line Curriculum Cisco-Semester-2 (all modules)

HET436 Broadband Multimedia Networks

12.5 Credit Points  1 Semester  4 Hours per Week  Hawthorn  Prerequisite: HET338  Teaching methods: Lectures and Laboratory Work.  Assessment: Assignments, Examinations, Labs.

A subject in the Bachelor of Engineering (Telecommunications & Internet Technologies), Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science and Software Engineering) and Bachelor of Multimedia (Networks & Computing)/Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives

The aim of this subject is to explore the key ideas of the emerging high speed broadband networks, and the mixed services and traffic types they carry. The significance of broadband capability is explored, together with its promises and difficulties, including some important unsolved problems.

Content

This subject is expected to adapt in response to emerging issues. It is concerned broadly with two major issues in current and future high speed broadband networks - the ability to deliver properly managed and differentiated quality of service and the drive for higher speed access to support more diverse multimedia applications. In both areas there are difficult technical challenges, and techniques continue to evolve over time.

References

Cisco Networking Academy On-line Curriculum Cisco-Semester-2 (all modules)

HET452 Wireless Communications

12.5 Credit Points  1 Semester  4 Hours per Week  Hawthorn  Prerequisite: HET314, HET313 and HET336  Teaching methods: Lecture, Laboratory and Assignment.  Assessment: Assignments, Examinations, Pracs.

A subject in the Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science and Software Engineering) BEng (Telecommunications & Internet Technologies) and BMultimedia (Networks & Computing)/BEng (Telecommunications & Internet Technologies).

Aims & Objectives

Students should be able to:

- Understand and use common mobile and personal communications terminology.
- Explain the behaviour of mobile communications systems and techniques.
- Analyse and critically evaluate performance of systems and sub-systems.
- Design systems to specified parameters, using analytical and empirical rules.

Content

- Introduction to wireless communications.
- Cellular concepts, frequency reuse, interference and capacity, channel assignment, handover, trunking and GoS.
- Mobile radio signal propagation: large scale path loss, shadowing, propagation models, link budgets.
- Mobile radio propagation: multipath fading: Doppler shifts, parameters of mobile channels, types of small scale fading, models.
- Digital modulation for cellular mobile systems: Overview of factors influencing choice, line coding, pulse shaping, linear modulation (BPSK, DSK, QPSK, OQPSK, PAM/OPSK), constant envelope modulation (FSK, MSK, GMSK), QAM, CDMA (DS-SS).
- Multiple Access systems and cellular standards: GSM, CDMA, WCDMA and capacity comparisons.

References


HET489 Robotic Control

12.5 Credit Points  1 Semester  5.5 Hours per Week  Hawthorn  Prerequisite: HET312  Teaching methods: Lectures, Tutorials and Laboratory Work.  Assessment: Assignments, Examinations, Pracs.

A subject in the Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Arts, Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Business, Bachelor of Engineering (Robotics & Mechatronics) and Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Science (Computer Science & Software Engineering).

Aims & Objectives

- To study the dynamic behaviour of electrical machines from the point of view of position and velocity control.
- To study the analog and digital control strategies and compensation techniques as applied to machine control.
- To study the power electronics associated with modern inverters for DC and AC drives including the employment of pulse width modulation.

Content

- Dynamic models of AC and DC machines.
- Development of models based on state variable analysis using two axis theorems.
- The application of computer packages such as Matlab and Simulink to the simulation of dynamic problems.
- Position and velocity control with compensation to meet a specification in a variety of applications.
- The design of forward path compensators, including PID controllers and state variable feedback in both an analog and digital form.
- The modern controlled AC to DC converter and variable frequency inverter and their employment in a total system of drives.
- A study of the problem of generated harmonics on the local environment and on the power system.
- Protection and safety precautions.
- Circuit breakers and fuses, including high speed semiconductor fuses.
- Measurement of parameters such as current, speed, position and torque for control signals and for detection of overloads.
- Generation of harmonics and effect on the power system, passive and active filters.

References

Leonhard, W., Control of Electric Drives, 2nd Edn., Springer Verlag, 1996.

HET501 Research & Development Project 5

12.5 Credit Points  1 Semester  Hawthorn  Students are expected to spend a day per week during semester working on their project in the research centre/group concerned, except by agreement with the project supervisor.  Prerequisite: Nil  Assessment: Assignments, Class presentations.

A subject in the Bachelor of Science (Research and Development)/Bachelor of Engineering (Electronics & Computer Systems).

Aims & Objectives

To develop in students:

- An understanding of scientific research method.
- Practical research skills.
- Practical design and development skills in a research environment.

Content

Students will undertake a substantial project, usually as part of a team of students or based within a research group in the university or external professional research establishment. A variety of projects will be made available to the student.
exceptional cases, students may negotiate to pursue a project of their own with the agreement of the subject convenor.

While projects will be of a substantial scientific research nature, they are generally expected to include the need to develop hardware or software systems. A regular seminar series, featuring key internal and external researchers, may be offered. These seminars could cover specific research topics, or aspects of research project management and generic research skill development.

HET503 Lasers

12.5 Credit Points • 1.5 Semesters • 40 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, informal discussion groups • Assessment: Assignment(s) 20%, Final Examination 80%.

A subject in the Bachelor of Science (Biophotonics) Honours, Bachelor of Science (Optronics and Lasers) Honours.

Aims & Objectives

This subject will provide a broad and unified description of the generation and amplification of coherent laser radiation at the simplest level compatible with correct physical understanding.

Content

- Energy levels and the interaction of radiation with matter.
- Pumping processes and population inversion.
- Introduction to optical cavities.
- Rate equation treatment of 3- and 4-level lasers.
- Modes of laser oscillation: normal mode, Q-switching and mode locking.
- Examples of lasers, optical pumping systems.
- Gaussian beam characteristics and propagation.
- Resonant optical cavities, mode volume and mode selection techniques.

References


HET504 Quantum Mechanics A

12.5 Credit Points • 1.5 Semesters • 40 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, informal discussion groups • Assessment: Assignments during semester 20%, Final examination (end of semester) 80%.

A subject in the Bachelor of Science (Optronics and Lasers) Honours.

Aims & Objectives

This subject will provide an introduction to quantum mechanics, suitable for students entering the honours course with a minimal background in modern physics. On completion of this subject students will have sufficient understanding of quantum mechanics to describe and analyse situations involving the quantum nature of light and matter and their interactions.

Content

Although the focus will be on theory, strong links will be made to experimental situations. The mathematical complexity will be appropriate for any student with a good background in science or engineering.

Origins of quantum theory:
- Blackbody radiation.
- Photoelectric effect.
- The Bohr atom.
- de Broglie hypothesis.
- Wave-particle duality.

Elementary quantum mechanics:
- Wave mechanics.
- Wave packets.
- Uncertainty relations.
- Probability interpretation.
- Schrödinger equation.

Simple systems:
- Particle in a box.
- Barrier penetration.
- Tunneling.
- Bound states.
- Harmonic oscillator.

Multiparticle systems:
- Symmetry.
- Bosons, fermions.
- Pauli exclusion principle.

Angular momentum:
- Central potentials, spherical harmonics.
- Spin, magnetic moment.

Hydrogen atom:
- Radial equation.
- Spectra.

References


HET505 Advanced Optical Imaging Theory

12.5 Credit Points • 1.5 Semesters • 40 contact hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, informal discussion groups • Assessment: Assignments 50%, Essay 50%.

A subject in the Bachelor of Science (Biophotonics) Honours.

Aims & Objectives

This subject aims to provide a solid understanding of the principles of diffraction theory of light and Fourier optics, and an introduction to advanced optical imaging theory.

Content

- Diffraction theory and approximations.
- Three-dimensional optics of a thin lens.
- Point spread function and transfer function analysis.
- Imaging with high aperture lenses.
- Imaging with an ultrashort pulsed laser beam.
- Imaging with aberration.
- Introduction to confocal imaging systems.

References


HET506 Modern Optics

12.5 Credit Points • 1.5 Semesters • 40 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, informal discussion groups • Assessment: Assignment(s) 20%, Final Examination 80%.

A subject in the Bachelor of Science (Biophotonics) Honours, Bachelor of Science (Optronics and Lasers) Honours.

Aims & Objectives

This subject aims to provide a solid understanding of basic concepts in modern optics and an introduction of fundamental principles of optical design.

Content

- Principles of wave optics.
- Introduction to Fourier optics.
- Introduction to optical engineering.
- Lenses and aberrations.
- Optical instruments.
- Detectors.
- Spatial light modulators.
- Lasers.
- Linear system transforms.
- Diffraction and interference.
- Holography.
HET507 Atomic and Molecular Spectroscopy & Non-linear

12.5 Credit Points • 1.5 Semesters • 40 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, informal discussion groups • Assessment: Assignments 20%, Final Examination 80%.

A subject in the Bachelor of Science (Biophotonics) Honours, Bachelor of Science (Optronics and Lasers) Honours.

Aims & Objectives
This subject will provide:
• A detailed understanding of the structure of atoms and molecules.
• An understanding of the main non-linear interactions between light and matter and their applications.

Content
The course will include a selection of topics under the following headings:

Spectroscopy:
• One-electron atoms.
• Schrödinger equation, bound states, energy eigenfunctions.
• Transition rates, Einstein co-efficient, selection rules.
• Fine structure, hyperfine structure.
• Stark shift, Zeeman shift, isotope shift.

Beyond one-electron atoms:
• Schrödinger equation for two-electron atoms, Pauli exclusion principle.
• Central field approximation, selection rules.

Molecular structure:
• Diatomic molecules.
• Rotational and vibrational states.
• Electronic and nuclear spins.

Spectroscopic properties:
• Natural linewidth, Doppler broadening, collisional broadening.
• Homogeneous and inhomogeneous broadening, power broadening.
• Saturation, optical pumping.

Laser Spectroscopic methods:
• Raman spectroscopy, time-resolved spectroscopy, coherence spectroscopy.
• Molecular beams, collisions.

Non-linear spectroscopy:
• hole burning, Lamb dip, saturation spectroscopy.
• Polarisation spectroscopy, multiphoton spectroscopy.

Laser trapping and cooling:
• Radiation pressure, optical dipole force, magnetic and optical traps.
• Sub-doppler cooling, atom optics, evaporative cooling.
• Bose-Einstein condensation.

Non-linear optics:
• Anisotropic polarisability of atoms and molecules - susceptibility tensor.
• Crystallographic and optic axes of crystalline optical materials.
• Second harmonic generation.
• Phase matching - types I and II.
• Index matching in uniaxial crystals.
• Critical and non-critical phase matching.
• Optical parametric oscillators, signal and idler beams.
• Non-linear effects in optical fibres.
• Harmonic generation, four wave mixing, NL refraction.

• Stimulated inelastic scattering (Raman and Brillouin).

References

HET508 Optical Waveguide Theory and Optical Fibre Sensors

12.5 Credit Points • 1.5 Semesters • 40 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, informal discussion groups • Assessment: Assignments during semester 20%, Final Examination (end of semester) 80%.

A subject in the Bachelor of Science (Biophotonics) Honours, Bachelor of Science (Optronics and Lasers) Honours.

Aims & Objectives
The aims of this subject are to give students a well-developed grounding in the principles underlying the theory of optical waveguides, and in the principles and application of fibre optic sensing.

Content
Optical Waveguide Theory (10 Hours):
• Maxwell’s equations for waveguides.
• Planar dielectric waveguides.
• Cylindrical dielectric waveguides.
• Dispersion, mode coupling and loss mechanism.
• Single mode fibres.

Fibre Optic Sensors (14 Hours):
• Important sensor characteristics.
• Classification of sensors.
• Intrinsic and extrinsic.
• Intensity, phase and modal distribution sensors.
• Single and multi-mode sensors.
• Matrix representation of sensor transfer characteristics.
• Representation of polarisation effects, Poincare sphere, Jones vectors and matrices.
• Single mode sensors, interferometers, polarimeters via Jones matrices.
• Two beam interferometers, Michelson, Mach-Zehnder, Sagnac.
• Signal processing.
• Active homodyne, passive homodyne, two wavelength homodyne.
• Heterodyne: principles, demodulation schemes.
• Pseudo-heterodyne.
• Synthetic and quadrature recombination heterodyne.
• Low coherence interferometry.
• In-fibre Bragg grating sensors.
• Characteristics of FBGs.
• Manufacture of FBGs.
• Type 1 and type 2 FBGs.
• FBG devices and sensor applications.

References
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<th>Subject Code</th>
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<tr>
<td>HET509</td>
<td>Advanced Optical Microscopy</td>
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<td>To introduce students to modern flow measurement applications using LDA and PIV.</td>
<td>Aims &amp; Objectives: To develop foundational knowledge of computer optical technology.</td>
<td>References: Guebert, G.M., Yochum, T.R., Pirtle, O.L., Essentials of diagnostic imaging, Mosby, 1995.</td>
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<td>HET510</td>
<td>Laser Optical Diagnostics in</td>
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<td>Particle Image Velocimetry (PIV):</td>
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<td>Optical imaging system for PIV.</td>
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<td>Accuracy and spatial resolution.</td>
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<td>applications using LDA and PIV.</td>
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<td>HET511</td>
<td>Honours Research Project</td>
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<td>Hawthorn</td>
<td>Nil</td>
<td>A subject in the Bachelor of Science (Biophotonics) Honours, Bachelor of Science</td>
<td>Aims &amp; Objectives: This subject aims to develop the ability to undertake original</td>
<td>References: Durst, E., Melling, A., Whitelow, J.H., Principles and Practice of Laser Doppler Anemometry, Academic Press, N.Y., 1976.</td>
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<td>Optronics and Lasers) Honours.</td>
<td>scientific research as part of a research group. At the completion of the subject</td>
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<td>the student will have demonstrated the ability to define and investigate a</td>
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<td>scientific question, and have contributed new knowledge to the particular field</td>
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<td>under investigation. It is an expectation (although not a requirement) that</td>
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<td>upon completion of the honours research project, the student will continue on to</td>
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<td>a higher degree in research (MSc or PhD).</td>
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<td>Content: The student will choose one of several projects offered by the various</td>
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<td>groups involved in the Honours course. The student will work in contact with</td>
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<td>the project supervisor and other group members as appropriate.</td>
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<td>HET512</td>
<td>Research Methods</td>
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<td>12</td>
<td>Hawthorn</td>
<td>Nil</td>
<td>A subject in the Bachelor of Science (Biophotonics) Honours, Bachelor of Science</td>
<td>Aims &amp; Objectives: This subject provides honours students with important</td>
<td>References: References to be advised.</td>
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<td>Optronics and Lasers) Honours.</td>
<td>information and skills necessary for efficient and safe activity in a research</td>
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<td>Content: Safety:</td>
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<td>Information retrieval and</td>
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<td>• Laser, mechanical, electrical issues and procedures.</td>
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<td>management:</td>
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<td>• Databases in the physical sciences.</td>
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<td>• Searching and retrieving</td>
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<td>• Use of software for storing and retrieving research information.</td>
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<td>data/papers/patents.</td>
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<td>• Requirements for research record keeping, log books etc.</td>
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<td>• Use of software for storing</td>
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<td>Scientific writing: Discussion of issues related to:</td>
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<td>and retrieving research</td>
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<td>• Papers - structure of a scientific paper, requirements for inclusion as author,</td>
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<td>information.</td>
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<td>ethics.</td>
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<td>• Minor theses - structure and requirements of an honours thesis.</td>
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<td>• Introduction to a modern symbolic mathematics programming language (eg. Maple,</td>
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<td>Mathematicala).</td>
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<td>HET514</td>
<td>Quantum Mechanics B</td>
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<td>Hawthorn</td>
<td>Nil</td>
<td>A subject in the Bachelor of Science (Biophotonics) Honours, Bachelor of Science</td>
<td>Aims &amp; Objectives: This subject will provide an advanced course in quantum</td>
<td>References: References to be advised.</td>
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<td>mechanics.</td>
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<td>Elementary principles:</td>
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<td>Content: This subject will provide an advanced course in quantum mechanics.</td>
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• Wave packets, wave function, Schrödinger equation.
• Operators, eigenfunctions, and eigenvalues.
• Transformations, symmetries, conservation principles, parity.

Semi-classical approximation:
• Classical limit of quantum mechanics.
• WKB method.

Formalism:
• ‘Schrödinger’, ‘Heisenberg’ and ‘interaction’ pictures.
• Dynamical states, Dirac notation.
• Representations.

Angular momentum:
• Quantisation of orbital angular momentum, spherical harmonics.
• Angular momentum operators.
• Spin, Pauli matrices.
• Bosons, fermions.

Quantum mechanics of the electromagnetic field:
• Einstein A and B coefficients, transition rates.
• Coulomb-gauge, electric dipole approximation.
• Second quantisation.
• Coherent states, number states.

Advanced topics:
• Time-dependent perturbation theory.
• Collision theory, potential scattering.

Relativistic quantum mechanics:
• Klein-Gordon equation, Dirac equation.

References

HET527  Sleep and Attention

12.5 Credit Points  • 1 Semester  • 4 Hours per Week  • Hawthorn  • Prerequisite: HET526 or HET525  • Teaching methods: Lectures, Tutorials and Seminars.

Aims & Objectives
An understanding of the physiological and behavioural process underlying normal sleep, attention and disorders of these states.

Content
• Sleep, consciousness and coma. Stages of sleep, Desynchronisation of EEG activity, functional models of sleep, sleep monitoring, sleep disorders.
• Attention: Mechanism, Neuropsychology, Models, Assessment of attention, Disorders of attention.

References

HET550  Design and Development Project 1

12.5 Credit Points  • 1 Semester  • Variable depending upon project: typically an average of 1 hour per week  • Hawthorn  • Prerequisite: 287.5 credit points excluding IBL  • Teaching methods: Staff Supervision.

Aims & Objectives
• To develop skills in planning and executing a major project in relevant discipline.
• To apply knowledge acquired during the course.
• To develop skills in literature research.
• To develop an individual ability to pursue an engineering objective.

The objective of the subject is to give the student experience in:

Planning and delivering a short technical lecture.
Constructing and testing hardware and/or writing and commissioning software.
Planning a complete project where time, availability of hardware, and money are realistic restraints. This includes planning a project with other students and working as a team with a team leader.
Writing a comprehensive thesis to detail all initial research, literature survey and the work performed.
The personal rewards in completing a complex engineering task.

References
commissioning of the project, an oral presentation and a written thesis detailing all the work undertaken in HET550 Design and Development Project 1 and HET556 Design and Development Project 2. Due to the diversity of projects the exact allocation of marks shall be agreed upon in writing between the student group, the Project Supervisor and the Subject Convener.

A subject in the Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Science (Biomedical Sciences)/Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Arts, Bachelor of Engineering (Electronics & Computer Systems)/Bachelor of Business, BEng (Telecommunications & Internet Technologies), BMultimedia (Networks & Computing)/BEng (Telecommunications & Internet Technologies) and Bachelor of Engineering (Robotics & Mechatronics).

**Aims & Objectives**
- To develop skills in planning and completing a major project in Robotics, Mechatronics and Software Development.
- To develop skills in preparing a major project report.
- To apply knowledge acquired during the course.
- To develop an individual ability to pursue an engineering objective.
- To prepare and present a professional seminar on the project.

**Content**
Students are expected to have selected a project during Final Year Project 1. The project may be university or industry based. It may take various forms in which technology, research and development, experimental work, computer analysis, industry liaison and business acumen vary in relative significance. It is expected that the project will involve a substantial software development component.

Students are expected to investigate probable solutions, prepare designs, analyse, and where appropriate, implement and test designed products and processes.

**References**
As recommended by the supervisor to support the student’s project.

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**HET559 Power Electronics**

12.5 Credit Points • 1 Semester • 5.5 Hours per Week • Hawthorn • Prerequisite: HET225 • Teaching methods: Lectures, Tutorials and Laboratory Work. • Assessment: Assignments, Examinations, Labs.

A subject in the Bachelor of Engineering (Electronics & Computer Systems).

**Aims & Objectives**
To study the characteristics of modern semiconductor power electronic devices for best selection to a certain application. To study the application of power electronic circuits in the fields of AC and DC drives, power generation and transmission and energy conservation.

**Content**
- Introduction.
- A revision of power semiconductor devices in the transistor, thyristor and hybrid families.
- Driver and trigger circuits for power devices.
- Protection of power semiconductor devices.
- A revision of the principle of pulse width modulation and its advantages.
- Switched mode power supplies.
- Machine Drives.
- A detailed study of modern AC and DC variable speed electrical machine drives.
- Calculation of component ratings, power factor, utilisation factor, retrieval of energy etc. for a given application.
- Principle of regenerative braking.
- Application and implementation of closed loop control to machine drives.
- Power Generation and Transmission.
- A review of alternators and power systems.
- The application of power electronics modern alternator field control and in transmission of power including DC transmission.
- The superposition of information transmission on power lines.
- Energy Conservation.
- Solar energy and other sources of energy.
- Battery technology as applied to the storage of electrical energy.
- The application of semiconductor inverters including uninterruptible power supplies to battery sources.

**References**
Leonhard, W., Control of Electrical Drives, Springer-Verlag, 1985.

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**HET601 Research & Development Project 6**

12.5 Credit Points • 1 Semester • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Class presentations. Students are expected to spend a day per week during the semester working on their project in the research centre/group concerned, except by agreement with the project supervisor.

A subject in the Bachelor of Science (Research and Development)/Bachelor of Engineering (Electronics & Computer Systems).

**Aims & Objectives**
To develop in students:
- An understanding of the scientific research method.
- Practical research skills.
- Practical design and development skills in a research environment.

**Content**
Students will undertake a substantial project, usually as part of a team of students or based within a research group in the university or external industrial research establishment. A variety of projects will be made available to the student. In exceptional cases, students may negotiate to pursue a project of their own with the agreement of the subject convenor.

While projects will involve substantial scientific research, they are generally expected to include the need to develop hardware or software systems. A regular seminar series, featuring key internal and external researchers, may be offered. These seminars could cover specific research topics or aspects of research project management and generic research skill development.

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**HET602 Exploring the Solar System**

12.5 Credit Points • 1 Semester • Equivalent to 5 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Online, CDROM & Internet links, Newsgroup & Email. • Assessment: Assessable newsgroup contributions, assignments and project.

A subject in the Graduate Certificate of Science (Astronomy), Graduate Diploma of Science (Astronomy) and Master of Science (Astronomy).

**Aims & Objectives**
To provide an introduction to our solar neighbourhood and the challenges of extraterrestrial exploration. The emphasis will be on conceptual astronomy, not mathematical techniques.

**Content**
- Star gazing, Star trails, the planets as wanderers.
- Modelling the formation of the Solar System.
- Lunar orbit, phases, synchronous rotation, the tides.
- The Earth, Modelling its evolution, observing the Earth.
- Space missions to the Moon, lunar surface characteristics and interior.
- Mercury, Venus and Mars.
- Planets as habitants.
- Space missions to the Gas Giants, exploring the Asteroid Belt.
- Jupiter and the other Jovian planets - Saturn, Uranus and Neptune.
- Major Satellites, minor satellites and rings of the Jovian planets.
- Pluto, Charon and the Plutons, the Kuiper Belt.
- The Sun, its structure, the Sun as nuclear powerhouse and solar dynamo.
- Solar activity and its effects on Earth.

**References**
HET603 Exploring Stars and the Milky Way

12.5 Credit Points • 1 Semester • Equivalent to 5 Hours per Week • Hawthorn • Prerequisite: HET603 or equivalent • Teaching methods: Online, CDROM & Internet links, Newsgroup & Email • Assessment: Assessable newsgroup contributions, assignments and project.

A subject in the Graduate Certificate of Science (Astronomy), Graduate Diploma of Science (Astronomy), Master of Science (Astronomy) and Bachelor of Science (Research and Development), Bachelor of Engineering Electronics & Computer Systems.

Aims & Objectives
To provide an introduction to the birth, life and death of stars and the structure of our galaxy. The emphasis will be on conceptual astronomy, not mathematical techniques.

Content
- The bulk properties and structure of the Sun.
- Distance, magnitudes, colours and spectral types of the stars.
- Binary star systems and masses of the stars.
- Gas, dust and nebulae and the birth of stars.
- Evolving onto the Main Sequence.
- Life on the Main Sequence, lifetime and mass-luminosity relations.
- How a 1 solar mass star evolves off the main sequence.
- Red giants and variables, planetary and white dwarfs Supernovae, supernovae remnants and creation of the elements.
- Neutron stars and pulsars, millisecond pulsars.
- Novae, CVs and supernova type 1’s, X-ray astronomy, black holes.
- Globular clusters, the structure of the Milky Way, the galactic centre.
- Missing matter and brown dwarfs.
- The search for extra-solar planets.
- The search for extraterrestrial intelligence.

References

HET604 Exploring Galaxies and the Cosmos

12.5 Credit Points • 1 Semester • Equivalent to 5 Hours per Week • Hawthorn • Prerequisite: HET604 or equivalent • Teaching methods: Online, CDROM & Internet links, Newsgroup & Email • Assessment: Assessable newsgroup contributions, assignments and project.

A subject in the Graduate Certificate of Science (Astronomy), Graduate Diploma of Science (Astronomy), Master of Science (Astronomy) and Bachelor of Science (Research and Development), Bachelor of Engineering (Electronics & Computer Systems).

Aims & Objectives
This unit is designed to provide an introduction to galaxies and galaxy clustering, theories of dark matter, galactic evolution and introductory cosmology.

Content
- The Milky Way - structure, rotation curve & dark matter, MACHOs and WIMPs, spiral arms and density wave theory, galactic centre, modelling the origin of the Milky Way.
- The structure and classification of normal galaxies - spiral, elliptical and irregular galaxies, Hubble's classification.
- Estimating galactic distances, sizes and masses, redshifts and Hubble's Law.
- Galactic clusters - the Local Group, rich and poor clusters, dark matter in clusters, superclusters and voids.
- Active galaxies and AGN - host galaxies, radio-galaxies, Seyfert galaxies, unified AGN model.
- Quasars, host galaxies, unified model, gravitational lensing.
- Interacting galaxies, galactic cannibalism and mergers, starburst galaxies, modelling galactic evolution.
- Basic postulates of cosmology, Olber's Paradox, Hubble expansion and cosmological red shift.
- Curvature of space, critical density, dark matter, open and closed universe models.
- Cosmic microwave background, introduction to the Big Bang theory, modelling galactic formation.

References

HET605 Theories of Space and Time

12.5 Credit Points • 1 Semester • Equivalent to 5 Hours per Week • Hawthorn • Prerequisite: HET604 or equivalent • Teaching methods: Online, CDROM and Internet links, Newsgroup and Email • Assessment: Assessable newsgroup contributions, assignments and project.

A subject in the Graduate Certificate of Science (Astronomy), Graduate Diploma of Science (Astronomy) and Master of Science (Astronomy).

Aims & Objectives
This unit provides a general introduction to the theories of Special and General Relativity and to Cosmology.

Content
- Galilean relativity.
- The Michelson-Morley experiment.
- Einstein's relativity postulates.
- Lorentz transformations.
- Length contraction and time dilation.
- The space-time 4-vector.
- Minkowski Diagrams.
- Simultaneity and causality.
- The relativistic Doppler Effect.
- Redshifts Relativistic momentum and energy.
- Rest mass, mass-energy equivalence.
- The energy-momentum invariant.
- General energy-momentum conservation law.
- Relativistic collisions Gravitation and curvature of space.
- Covariance and equivalence.
- Physics in curved spacetimes.
- The cosmological principle.
- Metrics.
- Coordinates.
- Einstein’s field equations.
- Gravitational radiation.
- Schwarzschild geometry and black holes.
- Pre-relativistic cosmology.
- Cosmological principles.
- Olber’s paradox.
- The Cosmic Microwave Background.
- The Big Bang theory.
- Friedmann and de Sitter cosmologies.
- Nucleosynthesis.
- Cosmology and particle physics.
- Dark matter.
- Cosmic inflation.
- Galaxy formation.

References

HET606 Tools of Modern Astronomy

12.5 Credit Points • 1 Semester • Equivalent to 5 Hours per Week • Prerequisite: HET604 or equivalent • Teaching methods: Online, CDROM and Internet links, Newsgroup and E-mail • Assessment: Assessable newsgroup contributions, assignments and project.

A subject in the Graduate Certificate of Science (Astronomy), Graduate Diploma of Science (Astronomy) and Master of Science (Astronomy).
Aims & Objectives

This unit aims to provide a familiarity with and understanding of the basics plus the latest developments in the design and use of telescopes and detectors, for amateur optical astronomy and professional astronomy at all wavelengths. Basic principles in design and deployment of space probes and their associated instrumentation are also investigated.

Content

- The electromagnetic spectrum and the sky at different wavelengths, atmospheric windows, processes dominant at different wavelengths.
- The eye as an optical instrument, lens systems, refracting and reflecting telescopes.
- Magnification, light-gathering power, angular resolution, diffraction limit, aberrations co-ordinate and time systems.
- Principles of telescope mount and housing design, control systems.
- Optical seeing, active and adaptive optics, laser guide stars, modern optical research telescope design, astronomical site selection and light pollution issues.
- Astrophotography, photometry, filters, colour magnitudes and colour indices.
- Photomultipliers, CCD imaging in amateur and professional astronomy.
- Optical spectroscopy, prism and grating spectroscopy, spectrophotometry, the 2dF.
- Infrared astronomy—detectors, South Pole Infrared astronomy and space missions.
- High-energy astronomy—design of UV, X-ray and gamma-ray telescopes and detectors.
- Neutrino astronomy, gravity wave detectors.
- Construction and resolving power of single-dish radio telescopes, principles of radio and microwave receivers, correlators, and precision timing techniques in pulsar astronomy.
- Radio interferometry, interferometer arrays and aperture synthesis, VLBI, data analysis.
- Radar astronomy, space exploration, probes to the inner and outer solar system.
- Strategies used to search for signs of extraterrestrial life in the solar system, detecting extra-solar planets, detection strategies in SETI, Project Phoenix.
- Designing for the 21st Century—likely advances, technical difficulties, planned projects.

References


Swinburne University of Technology | Higher Education Handbook 2002
HET609  Astrophotography & CCD Imaging

12.5 Credit Points  • 1 Semester  •  Equivalent to 5 Hours per Week  • Prerequisite: HET602 or equivalent.  •  Teaching methods: On-line delivery mode, course material available via CDROM and Internet links, contact via newsgroup and e-mail.  •  Assessment: Assessable newsgroup contributions, assignments and project.

Aims & Objectives

This unit will discuss the principles behind the imaging of astronomical objects with telescopes, conventional cameras and CCD cameras, plus the use of computer techniques for image processing. It will focus particularly on techniques and equipment within reach of the serious amateur astronomer.

Content

- Properties of Astronomical Targets: point and extended objects, point and surface brightness, spectrum distribution, sky brightness, atmospheric emission and scattering, motion of object (real or due to Earth), variable stars, supernovae and novae.
- Principles of telescopic imaging: optics, aperture size, focal length, F ratio, field of view, magnification, resolution, aberrations, distortion of field, contrast, spectroscopy, tracking and control.
- Principles of photographic imaging: exposure time, lenses, black and white, colour film, processing, blackening, exposure time, film density, gamma curves, use of b/w exposures with tricolour filters, special effects.
- Film processing: development, printing, superposition of images, photographic techniques for enhancing contrast, practical techniques for unsharp masking, 'pushing', 'hyping', noise reduction techniques.
- Photometry and Colours: spectral distributions; atmospheric extinction, dispersion and seeing, filters, standard photometric systems.
- Principles of CCD imaging: principles, spectral range and sensitivity, digital, integrating and video cameras, DIY construction, computer requirements, pixel size and binning, exposure time, dark frames and flat fields, remote telescope use, reduction of photometric data, reduction of spectroscopic data, images from the Internet.
- Principles of CCD data reduction: software, dark frame subtraction, cosmic ray removal, flat fielding, brightness, contrast, grey scale, colour contouring, negatives, resizing, pixel editing, filters, unsharp masking; scaling, histogram, equalization and noise reduction techniques.
- Professional observatory and HST front-end techniques: large CCD arrays, multiple object imaging (eg 2D tomography, etc.).

References


HET610  Studies in Space Exploration

12.5 Credit Points  • 1 Semester  •  Equivalent to 5 Hours per Week  • Prerequisite: HET602 or equivalent.  •  Teaching methods: On-line delivery mode, course material available via CDROM and Internet links, contact via newsgroup and e-mail.  •  Assessment: Assessable newsgroup contributions, assignments and project.

Aims & Objectives

This unit will commence with an introductory section on the basic principles, issues and scientific goals in space exploration, then trace its history and development with particular reference to manned versus unmanned space exploration, spacecraft design, launch and navigation, imaging and remote sensing. Public perception of space science and analysis of the costs, risks and benefits of space exploration will be discussed with special reference to ethical and legal implications of topics, such as the use of radioisotope fuel sources, 'space junk', and mining rights in space.

Content

- Ground-based space exploration: telescopes, detectors, limitations of ground-based observations.
- Unmanned space exploration: orbiting observatories, planetary missions, observing asteroids, comets, the sun, the heliopause and beyond.
- People in space: manned versus robotic missions, space stations, colonisation and terraforming.
- Evolution of human space flight: from fireworks to the V-2 rocket, Sputnik to Gagarin, to the Moon or bust, from Skylab to the Space Station, surviving, living and working in space, space flight in the future.
- Spacecraft design, launch and navigation: a probe for every purpose, lift-off and boosters, docking and course correction, navigating in space, basic orbital mechanics and calculations, landing on Earth, landing on other solar system bodies.
- Imaging and remote sensing: instrumentation, telemetry, communication, space observatories, data processing and manipulation.
- Fueling interplanetary missions: energy sources and techniques used in past, present and planned space missions, designs and intended uses, relevant benefits and risks, risk analysis, ethics.
- Costs, risks and benefits - scientific, legal and ethical dimensions: the science goals, public perception, legal implications and ethical considerations, space exploration and the press, the public understanding of science, the future of space exploration.

References


HET611  Introduction to Stellar Astrophysics

12.5 Credit Points  • 1 Semester  •  Equivalent to 5 Hours per Week  • Prerequisite: HET602 or equivalent.  •  Teaching methods: On-line delivery mode, course material available via CDROM and Internet links, contact via newsgroup and e-mail.  •  Assessment: Assessable newsgroup contributions, assignments and project.

Aims & Objectives

This unit follows on from HET602 to introduce the student to the study of the physical processes underlying stellar properties and the principles behind models of stellar evolution.

Content

- Classifying stars – magnitudes, colours, spectral types, extinction and reddening, binary stars and estimating stellar masses, stellar spectra – forming spectral lines, spectral types, the H-R Diagram, metal abundances, stellar populations, luminosity classifications, spectroscopic parallaxes.
- Hydrostatic equilibrium and radiation pressure, optical depth, absorption and emission mechanisms, photonspheres, gravitational contraction versus fusion, reaction rates, PP I and PP II, CNO cycle, triple alpha, stellar nucleosynthesis.
- Protostars – gravitational contraction and hydrostatic equilibrium, virial theorem, Jeans criterion, evolutionary tracks, ZAMS, H II regions, birth of massive stars, T Tauri stars, protostellar jets, accretion disks and proplyds, forming planetary systems, brown and red dwarfs.
- Main sequence stars, masses and lifetimes: the Sun - properties, radiative processes, atmosphere, absorption lines, allowed and forbidden transitions, active sun, solar wind.
- Evolution of the main sequence – red giant branch, degenerate gas pressure, helium flash, asymptotic giant branch, thermal pulsing, stellar superwinds, mass loss, planetary nebula, white dwarfs, high-mass stellar winds, Wolf-Rayet stars, the horizontal branch, dredge-up and nucleosynthesis, evolution and stellar populations, photodisintegration, the Chandrasekhar limit.
- Stellar clusters – types, metallicity, turn-off points, main-sequence fitting, blue stragglers.
- Pulsating Stars – types, period-mean density relation, radial modes, helioseismology.
- Supernovae – Type I and II supernovae, light curves, supernova remnants.
• Neutron Stars – properties, composition, neutron degeneracy, mass-volume relation, rotation, gravitational binding energy, magnetic fields, pulsar lighthouse model and synchrotron radiation, spin-down and characteristic lifetimes, dispersion, millisecond pulsars, determining binary orbits.
• Black holes – warping space time, escape velocity and the Schwarzschild radius – rotating black holes - ergosphere, frame dragging.
• Evolution of close binaries – Roche limit and accretion disks, novae, cataclysmic variables, Algoren radius, millisecond pulsars, black-widow effect, seeking black holes in X-ray binaries.

References

HET612 Major Project: History of Astronomy
12.5 Credit Points • 1 Semester • Equivalent to 5 Hours per Week • Prerequisite: HET607 • Teaching methods: On-line delivery mode, contact via newsgroup, e-mail and Internet links • Assessment: An electronic logbook recording the student's research process, project proposal, a detailed project report, and a short summary ‘poster paper’ contribution to an ‘Internet’ course conference.
A subject in the Graduate Certificate of Science (Astronomy), Graduate Diploma of Science (Astronomy) and Master of Science (Astronomy).
Aims & Objectives
This unit aims to develop the student's:
• Knowledge and understanding of a particular aspect or period of the history of astronomy.
• Practical literature and Internet research skills, plus synthesis and communication skills.

Content
Students will undertake a substantial literature and/or Internet research project on a particular aspect or period of the history of astronomy. A variety of suggested project topics will be made available, or students may suggest their own, subject to negotiation with the subject convenor. Each student will work closely with a supervisor assigned to his or her project, communicating and exchanging drafts via e-mail, and, where appropriate, students will collaborate with each other via newsgroup discussions.

References
Crowe, M., Theories of the World from Antiquity to the Copernican Revolution, Dover, 1990.

HET614 Introduction to Particle Physics and High Energy Astrophysics
12.5 Credit Points • 1 Semester • Equivalent to 5 Hours per Week • Prerequisite: HET605 or equivalent. • Teaching methods: On-line delivery mode, course material available via CDROM and Internet links, contact via newsgroup and e-mail. • Assessment: Assessable newsgroup contributions, assignments and project.
Aims & Objectives
This unit provides a general introduction to particle physics in general and to modern high-energy astrophysics in particular.

Content
• Probing the atom – the atom and electrons, the nucleus and nucleons.
• Conservation laws and fundamental forces – charge, energy, momentum; neutrinos; gravitational, electromagnetic, strong and weak forces; interactions and Feynman diagrams.
• Antimatter – positrons, properties of antimatter, other antimatter particles.
• The Particle Zoo – pions, muons, species of neutrinos and antineutrinos, particle classifications.
• Conservation laws revisited – lepton, baryon number, strangeness, reaction rules.
• The Quark Model – building mesons and baryons out of quarks, quarks and the classification scheme, experimental evidence for quarks, the Standard Model and quark flavours.
• Acceleration of Charged Particles – particle accelerators, colliders, particle detectors.
• Solar, cosmic ray and neutrino astronomy – accelerating particles and solar flares, pair production, synchrotron radiation and magnetic fields, neutrinos and weak interactions, neutrino oscillations, Cerenkov radiation, lepton scattering.
• Neutron stars – strong interactions, interiors and nuclear matter, Compton and inverse Compton scattering, QPO sources, millisecond X-ray pulsars.
• X-ray and Gamma-Ray Astronomy – supersoft X-ray sources, Jets, TeV gamma-ray emission from the Crab Nebula, detecting the supergalactic plane, highest energy gamma-ray sources, Gamma Ray Bursters - detection, possible production processes and astronomical sources.
• Gravitational wave astronomy – gravitational, binary and colliding neutron stars and black holes.
• Exotics – quark stars, searching for dark matter – WIMPs.
• Particle Physics and Cosmology – cosmic microwave background, scattering, matter and antimatter, symmetry breaking, primordial black holes, fundamental constants and cosmological time.
• Grand Unified Theories (GUTs), Theories of Everything (TOEs) and implications for cosmology.

References

HET615 Major Project: Astrophotography and CCD Imaging
12.5 Credit Points • 1 Semester • Equivalent to 5 Hours per Week • Prerequisite: HET609 • Teaching methods: On-line delivery mode, contact via newsgroup, e-mail and Internet links. • Assessment: An electronic logbook recording the student's research process, project proposal, a detailed project report, and a short summary ‘poster paper’ contribution to an ‘Internet’ course conference.
A subject in the Graduate Certificate of Science (Astronomy), Graduate Diploma of Science (Astronomy) and Master of Science (Astronomy).
Aims & Objectives
This unit will aim to develop the student’s:
• Knowledge and understanding the principles involved in a particular aspect or application of astrophotography and/or CCD imaging.
• Practical experience in the techniques involved in astrophotography and/or CCD imaging.
• Ability to keep a comprehensive record of experimental investigations, to write a detailed summary report of techniques used and investigations undertaken, and to communicate effectively about the outcomes of their work.

Content
Students will undertake a substantial practical amateur observing projects using astrophotography and/or CCD imaging techniques. A variety of suggested project topics will be made available, or students may suggest their own, subject to negotiation with the subject convenor. Each student will work closely with a supervisor assigned to their project, communicating and exchanging drafts via e-mail, and, where appropriate, students will collaborate with each other via newsgroup discussions.

References

HET616 Great Debates in Astronomy
12.5 Credit Points • 1 Semester • Equivalent to 5 Hours per Week • Prerequisite: HET604 or equivalent. • Teaching methods: On-line delivery mode, course material available via CDROM and Internet links, contact via newsgroup and e-mail. • Assessment: Assessable newsgroup contributions, assignments and project.
Aims & Objectives
This unit will investigate in depth great debates in astronomy which have shaped (or are still shaping) our current understanding of the universe and its evolution.
Aims & Objectives

Provide an understanding of the psychophysiology of emotional processes, affective and anxiety disorders, schizophrenia, and the processes of normal and abnormal aging.

Content

- Emotional processes: psychophysiological correlates of emotional processes.
- Psychopathology: psychophysiology of affective disorders, anxiety disorders, somatoform and dissociative disorders, substance abuse and organic disorders.
- Schizophrenia: biological factors including biochemical abnormalities and brain imaging studies, information processing abnormalities, behavioural measures, models of the disorder and therapeutic approaches.
- Aging: psychophysiology of normal aging in the brain, and in the dementias.

References


HET701 Research & Development Project 7

12.5 Credit Points  •  1 Semester  •  Hawthorn  •  Prerequisite: Nil  •  Assessment: Assignments, Class presentations. Students are expected to spend a day per week during semester working on their project in the research centre/group concerned, except by agreement with the project supervisor.

A subject in the Bachelor of Science (Research and Development)/Bachelor of Engineering (Electronics & Computer Systems).

Aims & Objectives

To develop within the student:

- An understanding of the scientific research method.
- Practical research skills.
- Practical design and development skills in a research environment.

Content

Students will undertake a substantial project, usually as part of a team of students or based within a research group in the university or external industrial research establishment. A variety of projects will be made available to the student. In exceptional cases, students may negotiate to pursue a project of their own with the agreement of the subject convenor. While projects will be of a substantial scientific research nature, they are generally expected to include the need to develop hardware or software systems. A regular seminar series, featuring key internal and external researchers, may be offered. These seminars could cover specific research topics or aspects of research project management and generic research skill development.

HET706 Networks and Routing

12.5 Credit Points  •  1 Semester  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: On-line self study, augmented by a weekly lecture/tutorial, and in some weeks laboratory work, kinesthetic role plays and assignment work.  •  Assessment: On-line tests, assignments, laboratory work and written final exam.

A subject in the Graduate Certificate of Science in Network Systems, Graduate Diploma of Science in Network Systems and Master of Science in Network Systems.

Aims & Objectives

The student should be able to:

- Use the OSI model to describe direct point to point data communications.
- Address a network, given a topology and starting IP address.
- Describe basic inter-network processes.
- Explain basic electrical and electronic issues in networks.
- Conduct basic network audits.
- Explain the function of network management tools.
- Build a simple network of hosts, cables, hubs, and routers, at layer 1 level.
- Troubleshoot typical physical problems in a small network.
- Compare and contrast the details of Layers 1, 2, and 3 in the context of Ethernet and IP.
- Compare and contrast the details of Layers 4, 5, 6, 7 in context of TCP and IP.
- Compare and contrast LANs and WANs layer by layer.
- Compare and contrast static versus dynamic routing, routed protocols versus routing protocols, and distance vector versus link state routing.
• Describe the internal configuration components of a router, access the router, and test network connectivity.
• Describe and perform a basic router configuration.
• Explain TCP (segment format, port #s, handshakes) and IP (IP datagrams, ICMP, ARP, RARP).
• Address and configure a network.
• Compare and contrast static and dynamic routing, routed and routing protocols, IGP and EGP, and RIP and IGRP.

Content

- Networks and Layers, Networking Devices.
- IP Addressing, ARP and RARP.
- Electricity and Electronics.
- Network Management.
- OSI Model, Layers 1-7.
- WANs.
- Routing, Using the Router, Router Components.
- Router Startup and Setup, Router Configuration.
- IOS.
- TCP/IP.
- IP Addressing.
- Routing Protocols.

NB: This subject content and methodology provides training that, in addition to study at Swinburne, trains students towards sitting the external CCNA certification examinations: the latter are conducted independently of Swinburne and a fee is charged by the testing body.

References

HET708 Internetworking Technology

12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: HET706 • Teaching methods: On-line self study augmented by a weekly lecture/tutorial, and in some weeks, laboratory work, kinesthetic role plays and assignment work. • Assessment: On-line tests, assignments, laboratory work and written final exam.
A subject in the Graduate Certificate of Science in Network Systems, Graduate Diploma of Science in Network Systems and Master of Science in Network Systems.

Aims & Objectives
Students should be able to:
• Explain the details of LAN switching and compare and contrast segmentation with bridges, switches, and routers, build simple LANs involving switches and access the switch.
• Explain why VLANs are used and how they are achieved using switches, configure switches to create VLANs.
• Design a small LAN, justifying and documenting design decisions.
• Develop an IP addressing scheme for a network of WAN and LANs.
• Compare and contrast dynamic routing, routed protocols versus routing protocols, distance vector versus link state routing, and RIP versus IGRP, configure networks to run RIP and IGRP.
• Explain the use and importance of access lists, configure standard and extended access lists on router interfaces.
• Explain the unique features of Novell IPX, configure and monitor Novell IPX routing.
• Explain the various WAN technology options for district sized networks, identify and use WAN-based router commands.
• Design and explain a district WAN, configure routers to implement basic district WAN functions.
• Explain PPP and add it to a designed WAN, configure and verify PPP on the routers.
• Explain why and how ISDN can be integrated into a District WAN, identify how to configure and verify ISDN on a router.
• Explain why and how Frame Relay is used in the District WAN, configure and verify Frame Relay on the routers.

Content

This subject utilises a core curriculum of on-line self study, which is commonly taken as part of the training for industry certification (the highly regarded Cisco Certified Network Associate CCNA). The self study is augmented by a weekly lecture/tutorial, and in some weeks, laboratory work, kinesthetic role plays and assignment work. Note: This subject content and methodology provides training that, in addition to your study at Swinburne, trains you towards sitting the external CCNA certification examinations: the latter are conducted independently of Swinburne and a fee is charged by the testing body.

The following areas will be covered:
• LAN Switching, VLANs, LAN design.
• IGRP.
• Access Lists.
• Novell IPX.
• WANs and WAN design.
• PFP, ISDN, Frame Relay.

References

HET709 Minor Multimedia Project

25 Credit Points • 1 Semester • Variable depending on project: typically an average of 1 hour per week • Hawthorn • Prerequisite: Approval from Course Coordinator • Teaching methods: Project • Assessment: Project(s), Project Progress, Project Report.
A subject in the Master of Multimedia.

Aims & Objectives
To enable the student to acquire practical experience in Multimedia technology, operating in a team environment.

Content

The minor multimedia project subject is a subject for students in the final stage of the Master of Multimedia course. The project subject is intended to integrate and develop the skills and knowledge acquire/refined during the course. Typically, the project will incorporate aspects of project planning and design (preproduction), as well as useability testing and the development of some form of deliverable.

The Master of Multimedia course coordinator maintains a list of possible projects. Projects are normally drawn from this list, although projects outside this list may be possible.

The projects run as group projects. The ability to work effectively as part of a team is an important attribute in the multimedia industry, and will be a consideration in the assessment of projects. It is expected that wherever possible each project group will be liaising with an external client. Where necessary, and at the discretion of the course coordinator, an external project adviser may be appointed.

References
• User management and access control.
• File systems, including striped and fault-tolerant file systems.
• Sharing file systems via the network.
• Disk configuration and administration.
• Effective backup and restore system.
• Managing printers, including local printers, network printers, and printer pools.
• Managing processes, performance optimisation and capacity planning.
• Securing systems, including implementing security policies and system auditing.
• Automating system administration tasks with scripts.
• Remote network access.
• Web server installation and configuration.
• System management tools.
• Trouble-shooting and maintenance.

References
Microsoft Official Curriculum.
2153 Microsoft Windows 2000 Network Infrastructure.

HET713 Internetwork Routing
12.5 Credit Points • 1 Semester • 5 Hours per Week • Hawthorn • Prerequisite: HET708 Internetworking Technologies • Teaching methods: Lectures, tutorials and practical sessions • Assessment: Examinations, Practical Examination, Tests.
A subject in the Graduate Certificate of Science in Network Systems, Graduate Diploma of Science in Network Systems and Master of Science in Network Systems.

Aims & Objectives
To introduce IP protocols and techniques for routed networks.

Content
• Scalability of internetworks.
• Managing traffic access – congestion control.
• IP traffic management.
• Access lists and virtual terminal access.
• Queue configuration in traffic management - weighted fair queuing, priority queuing, custom queuing.
• Scalable routing protocols.
• Comparison of routing protocols.
• Extended IP addressing using VLSMs.
• Variable-length subnet masks.
• Route summarization.
• OSPF for single and multiple areas.
• Virtual links.
• Enhanced IGRP configuration and operation.
• Routing and routing update traffic.
• Network management and security, and BGP.

References
To be advised.

HET714 Network Computing
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: HET715 • Teaching methods: Lectures, tutorials, laboratory and project. • Assessment: Examination, project.
A subject in the Graduate Certificate of Science in Network Systems, Graduate Diploma of Science in Network Systems and Master of Science in Network Systems.

Aims & Objectives
To explore the technology of distributed objects for networked computing, using Java.

Content
This subject deals with the distributed object approach to networked computing. It explores methods of interfacing objects across the network, using Java sockets, RMI/ CORBA, and Java IDL. These methods are used to implement sample networked computing applications.

References
Web based tutorials (particularly on <Java.sun.com> website.)

HET716 Networked Applications
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, tutorials, laboratory sessions and projects. • Assessment: project, assignment, examination.
A subject in the Graduate Certificate of Science in Network Systems, Graduate Diploma of Science in Network Systems and Master of Science in Network Systems.

Aims & Objectives
To develop networked applications and explore their operation.
Content
This subject deals with the design and implementation of data communication applications and the services to support them. Applications may include e-commerce systems, voice on the net, voice on IP, and Internet based applications for home, office, and commerce.

References
Web based materials.

HET717 Simulation of Networks
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil - Some background in basic probability theory is expected (probability distributions, mean, variance, correlation), and an ability to program using a general purpose programming language.
Teaching methods: Lectures, tutorials and practical sessions.
Assessment: Project/assignment.
A subject in the Graduate Certificate of Science in Network Systems, Graduate Diploma of Science in Network Systems and Master of Science in Network Systems.

Aims & Objectives
To acquire skills in the generation and testing of simulated network behaviour. To use these skills to explore the nature and validity of traffic and resource models for investigating network behaviour and performance.

Content
- This subject is primarily project-based, supported by some lectures on background theory.
- The subject will consider the use of general purpose programming languages (e.g. C or C++) for simulation, as well as the use of simulation packages (e.g. ns-2).
- Discrete event simulation: Generating pseudo-random numbers. Generating random numbers with a prescribed probability distribution. Scheduling and events lists.
- Analysis of simulation results: confidence intervals and variance reduction techniques.
- Simulation packages. Comparison of models and real system behaviour - authentication of simulation models.
- Use of a simulator for animation (e.g. nam) versus performance modelling.
- Transient and steady state behaviour of simulated systems. Network traffic models and resource models.
- Project-based exploration of performance issues by simulation, for example: performance of alternative congestion control schemes; differentiated services protocols; resource reservation/allocation schemes; QoS on IP; streaming and multipoint applications.

Reading Materials

HET718 Mobile and Personal Networking
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil - Teaching methods: Lectures, tutorials and laboratory sessions.
Assessment: Assignments.
A subject in the Graduate Certificate of Science in Network Systems, Graduate Diploma of Science in Network Systems and Master of Science in Network Systems.

Aims & Objectives
To introduce the key ideas in modern mobile telecommunications systems and networks. At the completion of this subject, students should:
- Understand the design principles behind modern mobile telecommunications systems and networks.
- Be able to analyse the performance of mobile telecommunications networks.
- Appreciate the interaction between the radio, signalling, traffic, and fixed network aspects of mobile telecommunications networks.

Content
- Principles of mobile communications: Frequency reuse, spectral efficiency, handover, interaction with the fixed network.
- Microcells and macrocells.
- The mobile radio channel: Propagation models.
- Fast and slow fading.
- Principles of operation of FDMA, TDMA and spread spectrum.
- Capacity and traffic calculations for these systems.
- Switching and signalling for mobile networks.
- Standards for mobile communications: GSM, cdmaOne, cdma2000, WCDMA.
- Wireless data: GPRS, EDGE, WAP, Bluetooth.

References

HET720 RealTime Operating Systems
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil - Teaching methods: Lectures, tutorials and practical sessions.
Assessment: Assignment, Examination.
A subject in the Graduate Certificate of Science in Network Systems, Graduate Diploma of Science in Network Systems and Master of Science in Network Systems.

Aims & Objectives
To explore the technology of servers and networks.

Content
This subject deals with operating systems (with an emphasis on Unix) in relation to performance, network connectivity and security. Network functionality is examined in terms of methods of connection, maintenance of security and performance management.

References
Web based notes.

HET721 Minor Thesis
50 Credit Points • 1 Semester • 16 Hours per Week or equivalent • Hawthorn • Prerequisite: Approval required from Course Convener • Teaching methods: Supervised reading, field work and individual consultation as required. • Assessment: Class presentations.
Aims & Objectives
Master of Science in Network Systems.

Aims & Objectives
To provide an opportunity for students to develop analytical, research and report writing skills while exploring a topic in depth.

Content
This subject requires students to prepare a minor thesis of around 12,500 to 15,000 words on a topic chosen in consultation with staff. Generally the paper will take the form of a comprehensive literature review of a topic of contemporary interest, followed by presentation of a substantial research project.

References
To be advised.

HET723 Internet and WWW
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: HET730 Multimedia Practice • Teaching methods: Lecture, laboratory-based exercises, on-line delivery. • Assessment: Assignment and laboratory exercises, computer-based tests, discussion forum contribution.

Aims & Objectives
HET723 introduces the functionality of Web page programming to achieve greater interactivity of Websites and the development of data-driven Websites. Several different technologies for Web page programming will be explored, and associated issues examined.

Content
- Website design and usability principles.
- Basic programming concepts.
- HTML and Forms.
- DHTML concepts.
Subject Details

- Web Authoring Software (Dreamweaver).
- Basic database structure and design, including SQL.
- Document Object Model.
- Client side web scripting (Javascript).
- Server side web scripting (ASP).
- Web Security Issues.

References

**HET724 Research Paper**

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Approval required from Course Convener • Teaching methods: Supervised reading, fieldwork and individual consultation as required • Assessment: Class presentations.

A subject in the Graduate Certificate of Science in Network Systems, Graduate Diploma of Science in Network Systems and Master of Science in Network Systems.

**Aims & Objectives**
To provide a flexible program of study which allows the student to undertake a special project. This would require research into a topic relevant to the course, but alternative to the standard prescribed subjects.

**Content**
This subject requires students to prepare a 5000 word article on a topic chosen in consultation with staff. Articles will generally take the form of a comprehensive literature review on a topic of contemporary interest.

**References**
To be advised.

**HET725 Research Report**

25 Credit Points • 1 Semester • 8 Hours per Week equivalent • Hawthorn • Prerequisite: Approval required from Course Convener • Teaching methods: Supervised reading, fieldwork and individual consultation as required • Assessment: Class presentations.

A subject in the Graduate Certificate of Science in Network Systems, Graduate Diploma of Science in Network Systems and Master of Science in Network Systems.

**Aims & Objectives**
To provide a flexible program of study which allows the student to undertake a special project. This would require research into a topic relevant to the course, but alternative to the standard prescribed subjects.

**Content**
This subject requires students to prepare an article of around 8,000 words on a topic chosen in consultation with staff. Generally, the paper will take the form of a comprehensive literature review of a topic of contemporary interest, followed by presentation of research undertaken by the student.

**References**
There are no prescribed texts. Students will be directed to the appropriate books and/or journal articles.

**HET728 3D Animation and Special Effects**

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Studio (Computer Laboratory), tuition with practical experience through exercises and set tasks • Assessment: Assignments, Practical work, CML test.

**Aims & Objectives**
- To give students an overview of key concepts and production techniques.
- To provide an introduction to the creation and animation of objects using a popular 3D package.
- To provide insight into the art and business of the 3D industry.

**Content**
This subject provides an introduction to 3D modelling and animation using a commercial 3D graphics application. The practical component of the course will take the student through the steps required to create and animate objects, apply materials, lighting and other effects. The lecture series will cover the following topics:
- Fundamentals of 3-dimensional graphics and core concepts.
- Project planning, storyboarding, and pre-production.
- Primitives and object topology.
- Modifying objects and modelling techniques.
- Shaders, texturing and materials.
- Lighting, environment and atmospheric effects.
- Basic keyframed and procedural animation.
- Particles and space warps.
- Rendering and post effects.
- Network rendering and management.
- The business of 3D.

**References**

**HET729 Design and Management of Networks**

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, tutorials and practical sessions • Assessment: Assignment, Examinations, Labs

A subject in the Graduate Certificate of Science in Network Systems, Graduate Diploma of Science in Network Systems and Master of Science in Network Systems.

**Aims & Objectives**
To introduce core issues of network design and management with a focus on emerging multi-service networks.

**Content**
This subject uses a case study and problem-based approach to introduce some of the wide range of topics facing network designers and managers today. The case studies are supported by a small set of theory modules to introduce quantitative tools to describe network traffic demand and resource capacity. Case studies will vary from time to time and may be drawn from the following topic areas: dimensioning of corporate LANs, telephony and Voice over IP networks; Virtual Private Networks using frame relay, ATM or MPLS; Internet Service Provider networks and services (Service Level Agreements, QoS differentiation, performance monitoring and billing); Video on Demand over cable or xDSL; the impact of caching and replication on network architecture (proxy server caching, mirror servers).

**Reading Materials**
To be advised.

**HET730 Multimedia Practice**

25 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Laboratory-based tuition with continual practical experience through exercises and set tasks • Assessment: Major assignments and hurdle tasks, practical examination.

A subject in the Graduate Certificate, Graduate Diploma and Master of Multimedia.

**Aims & Objectives**
To provide an introduction to the practice of multimedia, by developing appropriate skills with multimedia software.

**Content**
This subject involves an introduction to the practice of multimedia creation using various industry standard software tools.
- Concepts in digital image creation and manipulation.
- Concepts in 2D animation.
- Introduction to Multimedia Authoring using Macromedia Director.
- Introduction to vector graphics animation.
- Introduction to HTML and web page authoring.
- Comparison of various multimedia software packages.

**References**

**HET731 Multimedia Theory**

25 Credit Points • 1 Semester • Equivalent of 6 Hours per Week • Hawthorn • Prerequisite: HET730 Multimedia Practice • Corequisites: HET730 Multimedia Practice

Teaching methods: On-line delivery with on-campus revision sessions (normally 6 sessions per Semester, each of 1 Hour duration) • Assessment: Major assignments and weekly hurdle tasks.

A subject in the Graduate Certificate, Graduate Diploma and Master of Multimedia.
Aims & Objectives

- To introduce students to the principles of multimedia and the process of evaluating multimedia, and to provide the basis for students to learn project management skills for multimedia production.
- To provide a basis for students to develop interactive concepts using the correct principles of interactive communication and learn the basic rules of multimedia design.

Content

- Effects of multimedia on the community.
- Comprehensive definition of multimedia interactive communication.
- Different content requires different methods of interactive delivery.
- Usability issues associated with interface design.
- Interactive structure (media and navigation) analysis and interface assessment.
- Development of criteria for assessment of interactive structures and the methods of group testing.
- Project management: pre-production; prototype; production and post-production issues.
- Developing interactive concepts: effective use of interactive structures.
- Setting objectives within an interactive structure.
- Criteria for developing an effective navigation system for an interactive structure.
- Multimedia design principles: basic design principles for interactivity.
- Using colour and graphics and visual elements for the purpose of interactive design.
- Introduction to the process of animation.
- Introduction to the use of audio in interactive production and how to use audio in combination with other media elements.
- Basic principles of shooting video for interactive production, and intro to compression techniques.
- Methods of combining media for increased comprehension.
- Impact of convergence of different media areas such as broadcast and print on multimedia development.

References

Refer material will be available online.

HET732 Multimedia Development

12.5 Credit Points • 1 Semester • Equivalent of 3 Hours per Week • Hawthorn
Prerequisite: HET 730 Multimedia Practice • Teaching methods: Laboratory based tuition with continual practical experience through exercises and set tasks. • Assessment: Major assignments and hurdle tasks, practical examination.

A subject in the Graduate Certificate, Graduate Diploma and Master of Multimedia.

Aims & Objectives

To extend multimedia development and production skills to a professional level.

Content

- Raster and vector image acquisition/creation and manipulation.
- Digital video creation and manipulation.
- Digital audio manipulation.
- Understanding of issues in the integration of design elements into extended "multi-dimensional" environment (i.e. visual plus aural and temporal).
- Thorough understanding of the strengths of different authoring environments.
- Basic understanding of software, hardware and programming issues in multimedia.
- Storyboarding, scripting, research and development.

The major focus of the subject will be the development of a multimedia folio piece.

References


HET733 Computer Based Learning

12.5 Credit Points • 1 Semester • Equivalent of 3 Hours per Week • Hawthorn
Prerequisite: HET731 Multimedia Theory or HET702 and HET703 • Teaching methods: Online delivery with 6 on-campus revision sessions (semester 1, 2007 - Wednesday 8.30-7.30pm) • Assessment: Major assignment and weekly hurdle tasks.

A subject in the Graduate Certificate, Graduate Diploma and Master of Multimedia. This subject will be offered pending a sufficient number of enrolments. A minimum quota will apply.

Aims & Objectives

To provide a thorough understanding of the planning, creating and implementation of computer based learning programs.

Content

Computer based learning involves the delivery of training and educational material via a computer. It is now common practice to deliver computer based training online using an intranet or the Internet.

This subject focuses on the planning and development of training and educational programs for both education and industry. An appreciation of the issues associated with computer based learning provides a valuable skill set for a multimedia practitioner, as there is great potential and a growing demand for computer based learning and online delivery.

Topics covered include:

- Defining computer based training.
- How is CBL implemented in organisations.
- CBL interactive structures.
- Placing business systems into CBL.
- Developing and testing a CBL prototype.
- Instructional design principles for CBL.
- Using different media in CBL delivery.
- Achieving learning outcomes.
- Creating assessment structures.
- Evaluating outsourced training material.
- Starting and running a multimedia training unit.
- Future trends for CBL.

References

Reference material will be available online.

HET734 Information Architecture and Strategy

12.5 Credit Points • 1 Semester • Equivalent of 3 Hours per Week • Online
Prerequisite: HET731 Multimedia Theory or HET702 and HET703 • Teaching methods: Online delivery with optional on-campus revision sessions. • Assessment: Major assignment and weekly hurdle tasks.

A subject in the Graduate Certificate, Graduate Diploma and Master of Multimedia.

Aims & Objectives

To develop a thorough understanding of the planning and implementation of a multimedia and information technology strategy for an organisation.

Content

Information is the lifeblood of any organisation. If information is used efficiently then organisations are far more productive. An information strategy is about setting guidelines to increase the efficiency of information transfer. This involves everything from web strategies to advertising and presentations utilising new technology.

Information architecture defines the best means of communicating, combining the strengths of traditional communication with the benefits of information technology.

Information architecture allows for the most efficient and workable solution for information transferral - in to, out of and between divisions of an organisation. Even small changes in information flow can have dramatic effects on productivity. The increased use of IT is resulting in a significant increase in the information flowing through organisations. Without an information strategy organisations may become overloaded.

The task requirement for the completion of this subject culminates in a complete blueprint outlining a multimedia and IT strategy for an organisation. The students will map out all the multimedia and information needs of an organisation and be able to create and maintain an on-going information strategy.

Topics covered include:

- IT Terminology and definitions.
- Defining information flow in an organisation.
- Benefits of IT and multimedia for small business, small to medium enterprises, and large corporations.
- IT and multimedia organisational behaviour.
Configure asynchronous connections with modems.

**References**
Reference material will be available online.

**HET736  Broadband Multimedia Networks**
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures and Laboratory Work • Assessment: Assignments, Examinations, Labs.

A subject in the Graduate Certificate of Science (Network Systems), Graduate Diploma of Science (Network Systems) and Master of Science (Network Systems).

**Aims & Objectives**
The aim of this subject is to explore the key ideas of the emerging high speed broadband networks, and the mixed services and traffic types they carry. The significance of broadband capability is explored, together with its promises and difficulties, including some important unsolved problems.

**Content**
This subject is expected to adapt in response to emerging issues. It is concerned broadly with two major issues in current and future high speed broadband networks - the ability to deliver properly managed and differentiated quality of service and the drive for higher speed access to support more diverse multimedia applications. In both areas there are difficult technical challenges, and techniques continue to evolve over time.

**References**

**HET738  Neuropsychology Methods**
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Tutorials • Assessment: Case Studies, Examinations.

A subject in the BAppSci (Psychology/Psychophysiology)(Honours) Bachelor of Arts (Honours) Psychology stream and Postgraduate Diploma of Psychology.

**Aims & Objectives**
To examine issues in physiological psychology and neuropsychology.

**Content**
- Methods in neuropsychology.
- Frontal lobes structure, function and disorders associated with damage.
- Parietal lobes structure, function and disorders associated with damage.
- Temporal lobes structure, function and disorders associated with damage.
- Occipital lobes structure, function and disorders associated with damage.
- Hemispheric asymmetry and related asymmetries in cognition.
- Biological basis of mood disorders.
- Biological basis of schizophrenia.

**References**

**HET753  Remote Access Networks**
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: HET713 • Teaching methods: 4 Hours per Week for one semester of lectures, labs and tutes. There are also 4 optional classes available. Attendance to the laboratory and tutorial classes is compulsory. This subject utilises a core curriculum of on-line self-study, which is commonly taken as training for industry certification (the highly regarded Cisco Certified Network Professional - CCNP). The self-study is augmented by a lecture/tutorial covering key areas. In addition, in most weeks there are laboratory sessions and module tests. • Assessment: Examinations, Labs, Tests.

A subject in the Graduate Certificate of Science (Network Systems), Graduate Diploma of Science (Network Systems), Master of Science (Network Systems).

**Aims & Objectives**
On completion of this subject the student should be able to:
- Configure asynchronous connections with modems.
- Configure Point-To-Point Protocol and control network access.
- Use ISDN and DDR Technologies to enhance remote connectivity.
- Optimize the use of DDR Interface – Dialer Profiles and Rotary Groups.
- Set up frame relay connection and manage traffic flow control.
- Managing network performance with queuing and compression.
- Scale IP addresses with NAT.
- Use AAA to scale access control in an expanding network.

**References**
As recommended by the supervisor to support the student’s project.

**HET775  Minor Research Manuscript**
37.5 Credit Points • 1 Semester • Negotiated with supervisor • Hawthorn • Prerequisite: Nil • Teaching methods: Independent investigation and meetings with supervisor • Assessment: Seminar presentation and submission of literature review.

A subject in the Bachelor of Science in Psychology/Psychophysiology (Honours).

**Aims & Objectives**
The aim of this project is to develop independent learning through practical investigation. The project develops thorough skills in a particular chosen area and develops communication skills.

**References**
As recommended by the supervisor to support the student’s project.
HET780  Research Manuscript

50 Credit Points • 1 Semester • Negotiated with supervisor • Hawthorn • Prerequisite: Nil • Teaching methods: Independent investigation and meetings with supervisor • Assessment: Submission of a research manuscript.

A subject in the Bachelor of Science in Psychology/Psychophysiology (Honours).

Aims & Objectives
The aim of this project is to develop independent learning through practical investigation. The project develops thorough skills in a particular area, as well as communication and research skills.

References
As recommended by the supervisor to support the student's project.

HET1005  Engineering Project

12.5 Credit Points • 1 Trimester • 2.5 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures (12 hours), Supervised workshop/tutorials (24 hours), Assessment: Projects.

A subject in the Bachelor of Engineering (Electrical & Electronics Engineering) and the Bachelor of Engineering (Electronics & Computer Systems).

Aims & Objectives
By the completion of the project subject students will have:

- Experience in the work of a professional engineer in a representative context, and shared in the experience of other students engaged in other projects, leading to a more inclusive understanding of the engineering profession.
- Developed an appreciation of the social context of engineering work.
- Conducted an engineering design project from conception to final product.
- Constructed a richer understanding of fundamental engineering concepts through active engagement with these concepts in an application to real world problems.
- Developed problem identification and solution skills.
- Developed skills in working as part of a team.
- Gained skills in accessing, interpreting and using information from a range of sources.
- Improved skills in a range of communication modes.
- Developed time management and organisational skills.
- Developed physical skills appropriate to the project type.
- Reflected on personal strengths and weaknesses, and developed a better understanding of themselves as learners and individuals moving into an engineering career.

Content
Students will work in groups of 2 or 3 throughout the semester to complete an approved engineering project. The style of projects possible varies widely, from a multi-team design office approach to a large multifaceted infrastructure problem, to the design and construction of individual machines or electronic devices to meet a specific specialised need.

All projects, however, are assessed using the same range of structures, with strong emphasis on the ability to communicate effectively in written and oral forms not only the final outcome of the project, but also to be able to identify and reflect upon the design process and the associated teamwork issues encountered during the semester.

References
There are no prescribed texts, though the early lectures will introduce students to a wide range of information resources available through the library, and the procedures for accessing that information. A dedicated engineering librarian is also available to wide range of information resources available through the library, and the procedures for accessing that information. A dedicated engineering librarian is also available to

HGM501  The Entrepreneurial Organisation

12.5 Credit Points • 1 Trimester • 2.5 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Class sessions involving discussions, reflective activities, presentations and class participation, Assessment: Individual Essay 60%, Individual Report 40%.

A Stage 1 subject in the Graduate Certificate of Business Administration, Graduate Diploma of Business Administration and the Master of Business Administration.

Aims & Objectives
On completion students will have developed:

- A basic working understanding of team dynamics at the group level.
- A questioning and critical approach to the literature studied and an ability to further develop independent reading in the area of organisational dynamics, and innovative management.
- A working understanding of critical concepts such as ‘institution-in-the-mind’, organisational purpose, task, roles, structures, organisational diversity, communication, leadership, authority, representation, management, risk taking, and informed judgement (where a working understanding means the ability to bring together concepts, experience and observations).
- A capacity to access and learn from their experience in organisational settings, and from their experience in leadership and management roles (both in the classroom and in their work or other organisations).
- A capacity to realistically evaluate their own and others interpersonal skills and to develop enhanced observational, self-reflective and communication skills.
- A personal framework for exploring and developing their own managerial capacities which includes a working understanding of management style, the impact of life experience on taking up a managerial role, characteristics of innovative and creative management, capacity to work in uncertainty and ambiguity, capacity to read and act within the interpersonal and group contexts for management.
- A capacity to work with others on an action learning project.

Content
This unit will focus around the questions:

- What is an entrepreneurial organisation?
- What is innovative management?
- What sort of manager am I?
- What alternatives do I have?

What are the group dynamics that support an entrepreneurial organisation and innovative management?

A working understanding of ideas and actions will be sought. This means an ongoing linking of theory, the student's own experience and development of appropriate inquiry methods.

Students will be given a framework for exploring and changing (through experiential classwork and action learning based in the workplace) their own capacities as innovative managers. Students will work in small learning groups while adapting the framework to their own circumstances. They will be expected to develop a working action learning contract that must be ratified and evaluated by all small group members.

Students will act as 'consultants' to others in the small groups during the progress of their action learning project. They will also attend to 'here and now' dynamics of their small groups and the effects these have on members action learning projects.

The idea of the work organisation will be examined. The concept of ‘institution-in-the-mind’ will be introduced as a springboard for the exploration of student’s implicit ideas about organisation, its genesis and effects. Ideas such as purpose, task, structures, roles, leadership, authority, representation, communication, diversity and management will be explored.

References


HGM502  Strategic Marketing

12.5 Credit Points • 1 Trimester • 2.5 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Class sessions involving discussions, student presentations, case exercises and active participation of all class members, Assessment: Individual: Market/Analysis Report. Group: Group Field Study.

A Stage 1 subject in the Graduate Certificate of Business Administration, Graduate Diploma of Business Administration and the Master of Business Administration.
Aims & Objectives
The aim of this subject is to enable students to acquire knowledge and understanding of the principles of marketing with particular reference to managing the practical application of these within innovative and entrepreneurial organisations.

Candidates who satisfactorily complete this subject will possess the skills necessary to:
- Understand and apply principles of Marketing.
- Recognise and create a marketing orientation within an organisation.
- Identify and evaluate opportunities through effective analysis of the business environment.
- Devise market entry strategies.
- Create and evaluate marketing plans.
- Manage the marketing function.

Content
- Entrepreneurship: entrepreneurship; key marketing concepts.
- Marketing Strategy: marketing analysis tools - markets, customers, competitors, understanding customer behaviour, MIS & market research.
- Market-Driven Strategies: product, price, promotion, distribution, customer relationship management, technology and marketing.
- Marketing Management: marketing planning, plans, implementation and control, Management of the marketing function.

References

HGM503 Financial Data and Decision Making
12.5 Credit Points • 1 Trimester • 2.5 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, discussions, individual and syndicate presentations. • Assessment: Individual: Test 15%, Final Exam 55%, Group: Syndicate Assignment 30%.
A Stage 1 subject in the Graduate Certificate of Business Administration, Graduate Diploma of Business Administration and the Master of Business Administration.

Aims & Objectives
- To understand the information provided by the accounting system in recording, planning, controlling and evaluating the resource flows associated with a business entity.
- To be able to use and evaluate accounting performance measures and decision techniques for managing a business within a variable, complex market environment.
- To be able to use financial data in entrepreneurial, start-up and high growth situations.

Content
- Financial implications for start-up and high growth businesses.
- Structure, language and concepts of accounting.
- Decision making and planning.
- Cash flow and implications for business decisions.
- Performance measurement.
- Cost behaviour and the tools of decision making.

HGM504 Information Technology for Managers
12.5 Credit Points • 1 Trimester • 2.5 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Class sessions involving discussions, student presentations, case exercises and class participation. • Assessment: Individual: Class discussion participation 10%; Reflections on making effective use of online communication tools 20%; Individual information systems related business report 30%; Group: Syndicate plan for a business development moving towards eCommerce 40%.
A Stage 1 subject in the Graduate Certificate of Business Administration, Graduate Diploma of Business Administration and the Master of Business Administration.

Aims & Objectives
On completion of the subject students will be able to:
- Describe the role of information technology as a facilitator of business activities, a driver of change and a support for performance improvement.
- Understand the concepts and classifications of information systems and explain how information systems are managed.
- Discuss key strategic models and their relationship to information technology.
- Explain the business process reengineering and information technology.
- Explain the relationship between networks, communication and business collaboration.
- Outline the nature of different applications within the scope of eCommerce.
- Analyse the impact of information technology on organisations, individuals and society.
- Discuss the issues of privacy, ethics and security in relation to information systems, profit performance and risk management.
- Discuss quality and integrity issues in relation to systems, data and software.
- Participate actively and in a structured way as a general manager in the planning, development, deployment and maintenance of information systems within your organisation.

Content
The fundamentals of technology and information systems are explored, including:
- Information technology in organisations.
- Information systems concepts and management.
- Strategic information systems.
- Business process reengineering.
- The Internet.
- Electronic commerce.
- Planning for Information Technology and Systems.
- Systems Development Life Cycle.
- Impacts of information technology on organisations, individuals and society.
- Technology - hardware, software, database, telecommunications and the Internet.

References
HGM551 Leading, Following and Team Dynamics.

Aims & Objectives
On completion, students should have developed:
- An appreciation of literature related to innovative leadership.
- An understanding of a range of conceptual approaches to leadership/followship and group dynamics.
- A capacity to identify and analyse group-as-a-whole dynamics in relation to leaders;
- Increased awareness of group processes that inhibit or enable innovative leadership in small and large groups.
- An ability to evaluate entrepreneurial dynamics within broader business systems.
- Enhanced skills for managing in groups and heightened awareness of their own leadership capacities at work.

Content
The unit is workplace focussed, student centred and experiential, including:
- A theoretical foundation for understanding interpersonal, group and inter-group dynamics.
- Experiential exploration of students’ capacities in the ‘here and now’ for leading and following.
- A research project carried out in their own workplace.
- Reflective discussion and written analysis of the relationship between concept and experience in managing group dynamics.

References

HGM552 Finance for High Growth Businesses

Aims & Objectives
The aim of this subject is to give students an understanding of the aspects of financial management that impact strategy and to see finance itself as a series of strategic choices. Students should be able to:
- Apply this knowledge in entrepreneurial start-up and high growth situations.
- Identify and apply the basic conventions and doctrines of managerial and cost accounting and other generally accepted principles which may be applied in the contemporary cost management models.
- Apply major contemporary issues that have emerged in managerial accounting.
- Apply a number of issues relating to the design and implementation of cost management models in modern firms.

Content
- Risk Management: Risk vs return.
- Value: Creation of Value from operations.
- Strategic Cost Management Analysis (Value/Supply Chain).
- EVA (Balanced Score Card).
- Cost of Capital.
- Managing working Capital.
- Investment Decision Making.
- Sources of finance.
- Venture Capital and Requirements of Venture Capitalists.
- Advanced Management Accounting Topics.

References

Plus Reference Books, Journals and Articles from a list provided to students.

HGM554 eBusiness Design for Competitive Advantage.

12.5 Credit Points • 1 Trimester • 2.5 Hours per Week • Hawthorn • Prerequisite: HGM553 or equivalent • Teaching methods: Class sessions involving discussions, student presentations, case exercises and class participation • Assessment: Class discussion participation 10%; Evaluation of information systems, IT applications or web sites 20%; eBusiness modelling report 30%; Syndicate business process redesign for a business unit transition to eBusiness 40%.

A Stage 2 subject in the Graduate Diploma of Business Administration and the Master of Business Administration.

Aims & Objectives

The focus of this subject is on the integration of information technology and Internet enabled systems with the purpose of developing a business strategy to improve performance and gain competitive advantage. Conventional thinking needs to be transformed to successfully manage the information technology implications and opportunities for business.

Strategic planning and eBusiness modelling concepts and techniques will be applied to design an information technology enabled business unit. The emphasis will be on the contextualisation of concepts and techniques to the eBusiness environment, including adapting patterns of thinking. The subject builds on the knowledge developed during the study of subjects at stage 1 in this and other streams.

Exploration of the shift from eCommerce to eBusiness will demonstrate the need for process reengineering and business redesign. A balanced approach will be taken to customer system design, including the aspects of finance and performance measurement, customer related communication and data warehousing systems, knowledge management and learning systems, project management, service and decision support systems.

The application of management techniques using the processes of data mining will be explored and the skills of not-knowing and precision questioning will be developed. A management perspective rather than a technology specialist approach is taken.

On completion of this subject students will be able to:

- Describe process innovation, eBusiness design and architecture.
- Develop an eBusiness model for a high performance business unit.
- Redesign business processes in preparation for the implementation of technology based systems.
- Understand the main design and value-adding features, including quality, time and cost, of different information systems applications.
- Evaluate management information systems from a strategic perspective in terms of technology, behaviour and culture.
- Scan the eBusiness environment and recognise trends and patterns of success and failure.
- Understand the concepts of soft systems methodology for systematically managing information, learning and change.
- Experience the building of a simple web site for knowledge management purposes.
- Apply a selection of strategic performance management tools to gain value and relevant information for strategic decision making from well-designed data warehouses.

Content

The context for study in this subject will be the business unit making the transition from more traditional strategies to eBusiness:

- eCommerce to eBusiness - history, distinctions and future directions.
- Strategic transformation and information technology - generational change.
- Process redesign and organisational restructuring for eBusiness.
- eBusiness modelling.
- Systems design - transaction processing, supporting management and decision making, data and knowledge management.
- Information technology, systems and web site evaluation from a management perspective.
- Web site design and build for knowledge management purposes.
- Data mining skills for management problem analysis and decision making purposes.
- Developing effective online communication strategies.

References


HGM601 Integrating Project

HGM602

HGM603

25 Credit Points • 2 Trimesters • Hawthorn • Prerequisite: All Stage 1 subjects or equivalent • Teaching methods: Research Methodology Seminar: A variety of learning methods will be employed, including lecture discussion, seminar, experimental and practical learning exercises • Assessment: Research Proposal and Project: A Stage 3 advanced elective subject in the Master of Business Administration suite.

Aims & Objectives

The Integrating Project draws on the four core subjects of the MBA program (Technology, Leadership, Strategy and Finance) and is developed within the context of enterprise, innovation and international business. By the end of the project students will have systematically approached an organisational issue and studied the effects of their own reflection and action with respect to the issue, and extended their capabilities in the area.

Students will be encouraged to think critically and analytically about the principals that are introduced. This will involve active participation and interaction with other students in constructively evaluating each other’s work. The outcome of the research seminar will be a proposal for the integrating project.

Content

The Integrating Project will take the form of applied management research. Types of applied research include:

Case study Projects

In this approach, research knowledge is developed from integrating similarities and differences between organisations. A small sample of companies is used to examine a managerial issue in depth, and recommended actions are based on the research findings.

Action Enquiry Projects

Issues are identified, interventions are proposed, action is taken, results are examined and the process is evaluated. Each stage in action learning contributes to a continuous activity of applying knowledge and testing its effectiveness.

Management Consulting Projects

A process of identifying what needs to be done and establishing action plans to achieve the desired performance outcomes is followed. Consulting Projects are undertaken when the purpose is to use a particular methodology or approach to address a specific performance problem.

References


HGM604 Entrepreneurial Strategy

12.5 Credit Points • 1 Trimester • 2.5 Hours per Week • Hawthorn • Prerequisite: Stage 1 subjects and HGM553 or equivalent • Teaching methods: Classes and case study discussion • Assessment: Individual contribution to case study discussion and debate 35%; Written assignments 25%; Case research project 40%.

A Stage 3 subject in the Master of Business Administration suite.

Aims & Objectives

By the end of the trimester, students will be able to:
Aims & Objectives

- Identify the strategy concept and organisation concept of a corporation.
- Recognise the relevance of these concepts to the contexts of entrepreneurship, maturity, diversification, innovation and professionalism.
- Recognise how ‘entrepreneurial’ management differs from ‘professional’ management.
- Understand the importance of ‘culture’ in an organisation and its effect on venture opportunities.
- Design new ventures to optimise the odds for success in a corporate framework.

Content

The Venture process and corporate strategy:
- Formulating Strategy.
- Strategy Analysis.
- Strategy Formation.

Venture organisation and culture:
- Structure and systems.
- Power and decision making.
- Culture and social responsibility.

Venture generation – entrepreneurial and innovation concepts:
- Competitive strategy.
- Adhocracy.
- Not-for-profit/public sector.

Changing management needs during the entrepreneurship cycle:
- Doing more with less.
- International perspectives.
- Managing transition.

References


What assumptions underpin the concept of strategy and how robust are these assumptions in the ‘cyber’ context?

In practice for those responsible for leading their organisations into the future?

A recognition of the powerful effect that context and intent have on modes of communication, especially during periods of organisational transition.

References


HGM606 Consulting Processes for Organisations

12.5 Credit Points • 1 Trimester • 2.5 Hours per Week • Hawthorn • Prerequisite: All Stage 1 subjects or equivalent • Corequisites: HGM551 • Teaching methods: Class-based Consultation Sets • Assessment: Action Learning Project Report 60%; Group Report of Consultancy Design and Intervention 40%.

A Stage 3 advanced elective subject in the Master of Business Administration suite.

Aims & Objectives

To enable students to explore and understand varying assumptions and possibilities of the role of the consultant whether internal or external to the organisation.

Content

On completion of this subject, students will have:

- Explored consulting processes as an aspect of the manager’s role and as an independent role.
- Distinguished between various styles and types of consultancy.
- Appreciated the complex dynamics of the client/consultant relationship.
- Developed skills in consulting to organisational change processes.
- Examined values and ethical issues for consultants.

References

Agyris, C., Schon, D., Organisational Learning II: Theory, Method and Practice, Addison-Wesley OD Series, USA, 1996.


Aims & Objectives

Given the transformational change required to operate as a global eBusiness and the ongoing necessity for rapid incremental change, entrepreneurial activity is increasing with both high rewards and disasters being widely reported. Earlier studies have addressed the challenges of making the transition to eBusiness. In this subject the challenge of being entrepreneurial and creative is explored in relation to the emerging patterns of change and generation of opportunities.

Many of the spectacular cases of emergence, exponential growth and rapid demise will be studied in order to apply an understanding of the nature of eBusiness development and the drivers of success and financial benefits in the context of eBusiness. Managers are currently seeking answers to the requirements and success factors for managing new business ventures in the eBusiness environment.

In studying this subject students will:

- Analyse the driving forces for success and the impact of electronic commerce in multi-unit international businesses.
- Analyse eBusiness case studies applying eCommerce in different industries.
- Express ideas and implement management roles using interactive multimedia tools.
- Provide an opportunity for students to work in a team to capture and elaborate an eBusiness idea, develop a strategic plan and begin to develop some of the components that would be required to convince other parties to support the next venture.

After completing this subject students will be able to:

- Understand the importance of entrepreneurship and ongoing innovation in the eBusiness environment.
- Develop the skills required to integrate the management demands relating to technology and information systems in a complex organisation.
- Develop an identity as an eBusiness and information-enabled manager ready to manage technology and information across an enterprise operating in a global market with multiple business units.
- Apply and integrate knowledge and skills developed in other streams of study to an eBusiness venture.
- Assess strategic opportunities giving attention to people, technology, process, environment and changing trends.
- Explore the fundamentals of expert and intelligent systems and the developments in decision support systems.
- Understand and apply systematic approaches with flexibility to a range of information technology and computing resource management functions.

References


HGM608 Entrepreneurial eBusiness and Strategic Transformation

Aims & Objectives

This subject bridges the gap between IT infrastructure, eCommerce and knowledge-based frameworks to build an eBusiness. The subject extends earlier studies in eBusiness modelling and design, strategic transformation and entrepreneurial eBusiness to the next stage. It goes beyond theory to implementation in the broadest sense. The purpose of this subject is to answer the many questions posed by management during the process from idea to investment. Participants establish a development/implementation plan for an eBusiness, to the stage where it is ready to go to the Board for decision purposes. An important skill to be learnt by students in this process is to pose the right questions.

A sample of questions that might be asked includes:

- What are the key characteristics of the industry environment that will influence success?
- What is the eBusiness model that will generate competitive advantage?
- Will the current IT infrastructure be modified, or will new solutions be created?
- What do you invest in, and how do you sequence your decisions when each framework can take three years to implement?
- How will the Interrelated Frameworks of CRM, resource planning, order management, supply chain and evaluation of investments be integrated?
- What changes are needed to ensure the cohesive management of implementation?
- How will the contributing players work together for eBusiness blueprint planning?
- How will priorities be addressed?
Aims & Objectives

The underlying theme of this subject is ‘application’, i.e. combining students’ own experiences with the knowledge they have gained in the MBA subjects completed so far and applying that combination to a real life situation. This approach will give students an appreciation of the strategy drivers of their organisation, as well as their sensitivity in relation to establishing competitive advantage. It should also help students to understand competitive advantage as it relates to their careers.

Content

- The world tomorrow: What trend breaks can we expect in the future? Are the students as well as their organisations fit for the future? If not, what actions should they take to rectify the situation?
- Competitive advantage through a demand/customer rather than a supply-driven approach. In a world full of turbulence a proactive (opportunities) rather than a reactive (solving existing problems only) approach is required.
- Competitive advantage through rethinking the way we execute. It deals with the question: ‘Is there a totally different way to execute, to do business?’

Underpinning each of these topics is a need for students to develop a capacity for breakthrough thinking, i.e. a capacity to rethink strategy in a more creative/entrepreneurial way.

References

Barney, J., Gaining and Sustaining Competitive Advantage, Addison-Wesley, 1997.

Other readings as advised.

HGM611 Management and Innovation

12.5 Credit Points • 1 Trimester • 2.5 Hours per Week • Hawthorn • Prerequisite: All Stage 1 and 2 subjects or equivalent • Teaching methods: Lecture-discussion and syndicate presentations. • Assessment: Individual Assignment 60%, Syndicate Assignment 40%.

A Stage 3 advanced elective subject in the Master of Business Administration suite.

Aims & Objectives

- To provide a framework for managers to be creative and to innovate to gain sustainable competitive advantage.
- To examine methods for generating high value-added products.
- To develop the skills for managers to respond positively to changes in the operating environment.
- To provide an understanding of individual creativity drawing upon research findings of the last three decades.

Content

- Management of innovation.
- The human brain.
- Concepts of creativity.
- Techniques for idea generation.
- New product development and research and development.
- Seeking opportunities in a changing environment.
- Adapting management styles and organisation to fit change and encourage innovation.
- Entrepreneurship and intrapreneurship: new ventures and risk taking.

References

Evans, J.R., Creative Thinking in the Decision and Management Sciences, South Western, 1991.

HGM612 Capital Markets and Tax for High Growth Business

12.5 Credit Points • 1 Trimester • 2.5 Hours per Week • Hawthorn • Prerequisite: All Stage 1 subjects or equivalent • Corequisites: HGM652 • Teaching methods: Lecture, discussions and individual and syndicate presentations. • Assessment: Individual Assignment 25% Final examination 45%; Group Assignment 30%.

A Stage 3 advanced elective subject in the Master of Business Administration suite.

Aims & Objectives

The main aims of this subject are to develop an understanding of the range of financial institutions, instruments and markets within a modern financial system and the impact of current taxation legislation and practices, for the purpose of making financial decisions in an ever-changing and increasingly competitive business environment.

In particular the subject will provide an understanding of the workings of financial markets and their participants, and introduce students to the range of financial instruments available in Australia and the markets within which these instruments are created and traded. It will also provide an understanding of issues in the Income Tax Assessment Act which have a major impact on business decision making.

Given the complexity and speed of change within the Australian and international financial and taxation systems over recent years, the subject will concentrate on the current practices adopted in both the operation and structure of financial institutions, markets and institutions, and the taxation system.

Swinburne University of Technology  |  Higher Education Handbook 2002
**HIM101  Introduction to Complementary Medicine**

10 Credit Points  
4 Weeks  
6 Hours per Week  
Hawthorn  
Prerequisite: Nil  
Corequisites: Nil  
Teaching methods: Lectures/Tutorials, Clinical Demonstrations, Journal Review  
Assessment: Continuous.

A subject in the Graduate Certificate/Diploma of Integrative Medicine.

**Aims & Objectives**

To introduce the principles of complementary/integrative medicine plus the purpose and content of the course.

**Content**

- What is complementary/integrative medicine?
- The purpose of complementary/integrative medicine.
- The politics and economics of medicine.
- How to run a complementary/integrative medical practice.

**Recommended Reading**

- Archer, J., Bad Medicine, Simon and Schuster Aust. 1995.

**HIM102  Introduction to Nutritional and Environmental Medicine**

20 Credit Points  
8 Weeks  
5 Hours per Week  
Hawthorn  
Prerequisite: Nil  
Corequisites: Nil  
Teaching methods: Lectures/Tutorials, Clinical Demonstrations, Journal Review  
Assessment: Continuous.

A subject in the Graduate Certificate/Diploma of Integrative Medicine.

**Aims & Objectives**

The emphasis in this subject will be to introduce the principles of nutritional and environmental medicine and its potential for practical application to common clinical problems.

**Content**

The following gives an outline of topics covered in this subject:

- Diet and prevention of disease.
- Nutrients - macro and micro.
- Nutrients - micro including phyto chemicals/how to take a dietary history.
- Food sensitivity, environmental chemicals and disease.
- Environmental triggers in atopic illness.
- Nutritional aspects of coronary and other arterial disease.
- Nutritional aspects of women's health.
- Nutritional aspects of paediatric disorders.
- Nutritional aspects of men's health.
- Nutritional aspects of children's health.
- Nutritional aspects of cardiovascular disease.
- Nutritional aspects of neurological disorders.
- Nutritional aspects of gastrointestinal disease.
- Nutritional aspects of endocrine disorders.
- Nutritional aspects of connective tissue disorders.
- Nutritional aspects of bone disorders.
- Nutritional aspects of mental health.
- Nutritional aspects of psychosomatic disorders.
- Nutritional aspects of exercise.
- Nutritional aspects of sleep disorders.
- Nutritional aspects of infections.
- Nutritional aspects of gastrointestinal disorders.
- Nutritional aspects of renal disease.
- Nutritional aspects of endocrine disorders.
- Nutritional aspects of musculoskeletal disorders.
- Nutritional aspects of neurological disorders.
- Nutritional aspects of psychological disorders.
- Nutritional aspects of respiratory disorders.
- Nutritional aspects of skin disorders.
- Nutritional aspects of immune system disorders.
- Nutritional aspects of reproductive disorders.
- Nutritional aspects of metabolic disorders.
- Nutritional aspects of gastrointestinal disorders.
- Nutritional aspects of renal disease.
- Nutritional aspects of endocrine disorders.
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- Nutritional aspects of musculoskeletal disorders.
- Nutritional aspects of neurological disorders.
- Nutritional aspects of psychological disorders.
- Nutritional aspects of respiratory disorders.
- Nutritional aspects of skin disorders.
- Nutritional aspects of immune system disorders.
- Nutritional aspects of reproductive disorders.
HIM202  Introduction to Musculoskeletal/Physical Medicine and Sports Medicine

20 Credit Points  • 8 Weeks  • 5 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Co-requisites: Nil  • Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives).  • Assessment: Continuous.

A subject in the Graduate Certificate/Diploma of Integrative Medicine.

Aims & Objectives

Basic information relating to musculoskeletal/physical medicine to be presented as well as an introduction to clinical methods. Introduction to the physiology of exercise and the management of sports injury including the health benefits of exercise.

Content

Emphasis on diagnosis of musculoskeletal problems through history and examination plus mobilization and manipulation techniques. These topics will be covered:

• Review of the history of musculoskeletal/physical medicine and basic anatomy.
• Diagnostic approach to musculoskeletal/physical medicine.
• Mobilization and manipulation in general.
• Mobilization and manipulation of the spine.
• Mobilization and manipulation of the limbs.
• Mobilization and manipulation of sports and work-related injury.
• Preventive aspects of musculoskeletal/physical medicine.
• Writing medical reports.
• Clinical sessions.

Emphasis on benefits of exercise including factors that enhance performance. The basics of sports injuries and their management will be included. Topics will include:

• History and sociology of exercise/sports.
• Exercise physiology.
• Nutrition and sports performance.
• Exercise psychology and promotion of exercise.
• Exercise prescription in prevention and treatment of disease.
• Sports medicine - contact sport.
• Sports medicine - non contact sport.
• Sports medicine - in children.

Recommended Reading


HIM203  Introduction to Acupuncture

10 Credit Points  • 4 Weeks  • 5 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Co-requisites: Nil  • Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives).  • Assessment: Continuous.

A subject in the Graduate Certificate/Diploma of Integrative Medicine.

Aims & Objectives

Principles of acupuncture and introduction to its clinical application.

Content

The following topics will be presented:

• Introduction to acupuncture including its history and relationship to traditional Chinese medical theory.
• Physiological mechanisms of acupuncture.
• Acupuncture meridians - their pathways and points.
• Acupuncture techniques.
• Acupuncture for analgesia.
• Acupuncture for the treatment of other diseases.
• Four hour clinical demonstration.

Recommended Reading


HIM204  Introduction to Herbal Medicine

20 Credit Points  • 8 Weeks  • 5 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Co-requisites: Nil  • Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives).  • Assessment: Continuous.

A subject in the Graduate Certificate/Diploma of Integrative Medicine.

Aims & Objectives

Principles of herbal medicine and their role in the treatment of specific disease.

Content

An overview of the various herbs that have been scientifically shown to be useful in the prevention and treatment of illness. The following topics will be presented:

• The development of herbal therapies in traditional Chinese medicine, Ayurvedic and western medicine.
• Introduction to available herbs and their properties including toxicology.
• Role of herbal therapies in the prevention of disease.
• Role of herbal therapies in the treatment of disease.
• Four hour clinical demonstration.

Recommended Reading

Mowrey, D., The Scientific Validation of Herbal Medicine, Keats, New Canaan, 1990:86

HIM205  Introduction to Mind/Body Medicine

20 Credit Points  • 8 Weeks  • 5 Hours per Week  • Hawthorn  • Prerequisite: Nil  • Co-requisites: Nil  • Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives).  • Assessment: Continuous.

A subject in the Graduate Certificate/Diploma of Integrative Medicine.

Aims & Objectives

This subject will focus on the importance of the brain and how it conducts the body mechanisms. It will demonstrate the role of the mind in disease mechanisms and provide an introduction to relaxation techniques.

Content

These topics will be presented:

• Description of neural, hormonal and other transmitters between the brain and the body.
• What is mind/body medicine?
• The anatomy and physiology of mind body connections.
• Stress, emotion and influence on health and disease.
• Mind and its influence on immunity, hormones, growth factors and genes.
• Mind and vascular disease.
• Mind and cancer.
• Mind and other diseases.
• Mind in treatment and prevention of disease.
• Mental relaxation including meditation, yoga, hypnosis, autogenic training, imagery, bio feedback and group support.
• Clinical sessions.

Recommended Reading

Aims & Objectives

- To provide an understanding of practical statistics and its application to metrology.
- To provide the skills to calculate the uncertainty of measurement for simple and complex measurement processes.
- To develop skills in selecting an appropriate statistical technique for a given measurement situation and being able to apply it.
- To develop technical skills in using important metrological instruments and to understand their limitations.
- To develop an understanding of a selection of terms taken from the ISO GEUM standard (for example, Type A and Type B, coverage factor, uncertainty, random error, degrees of freedom, sensitivity coefficients) and to be able to define them.
- To provide the skills to interpret uncertainty statements in calibration reports and to apply the information.

Content

Statistics:

- Introduction to measurement techniques, uncertainty and data analysis.
- Distributions (normal, binomial, rectangular).
- Statistical parameters (Standard deviation, variance, standard error).
- Hypothesis testing (t tests, F tests).
- Sampling.

Uncertainty analysis:

- ISO GEUM.
- Terminology of uncertainty (Type A, Type B, etc.).
- Principles of uncertainty evaluation.
- Sources of uncertainty.
- Coverage factors (Student's t, degrees of freedom).
- Estimating uncertainty contributions.
- Evaluating total uncertainty (Correlation, combining uncertainty components).
- Confidence intervals.
- Reporting uncertainty (Significant figures, information required).
- Interpretation of uncertainties (in, out, on the line).

Data analysis and interpretation:

- Regression techniques.
- Curve fitting.
- Data presentation and interpretation (ANOVA).

Recommended Reading

Miles, J., An Introduction to Error and Uncertainty Calculations, Technical Memorandum 1, CSIRO, NML, Australia.

HIR102 Measurement Systems

12.5 Credit Points • 1 Semester • Hawthorn • Prerequisite: Nil • Teaching methods: Distance Education • Assessment: Assignments (4 x 25% each).

Aims & Objectives

- To develop an understanding of the international and national measurement infrastructure.
- To develop an appreciation of the significance and process of traceability in measurement.
- To provide the technical skills to identify the measurement organisations in Australia and their role in metrology.
- To develop an understanding of the basic metrological terms and to able to define and/or distinguish between a selection of terms taken from AS 3807–1998 ‘Vocabulary of basic and general terms in metrology’ (for example: discrimination, resolution, repeatability, stability, accuracy).
- To become familiar with National and International organisations (NATA, NSC, CSIRO, ISO, SA, BIPM) involved in administering measurement standards, and be able to the organisation as well as explain the role of each organisation in Australia’s measurement system.

Content

Introduction to Measurement and Metrology:

- Definition of measurement and its role in quality and quality assurance.
- History and philosophy of measurement.
- Economic and social impact (economic benefits, international trade, need for investment in equipment and training, importance of equipment histories).
- Tolerancing and interchangeability.
- Basic measurement principles.

Measurement Infrastructure:

- The SI system (definitions, units, realisation).
- Traceability.
- The international measurement system (BIPM, OIML, ISO, international agencies and treaties, international comparisons, NMI’s, regional groupings).
- Australia’s measurement system (NML, NATA, NSC, SA, Verifying Authorities, Trade Measurement System).
- Relationship between infrastructure and working laboratory.
- Recent developments in Australian and international metrology.

Terminology:

- Meaning of metrological terms.
- Understanding calibration reports and documentary standards.

General measurement tools and techniques:

- Temperature (Temperature scale, thermometers and their use, the influence of temperature on measurements).
- Pressure (Units of pressure, pressure gauges, the influence of pressure on measurements).
- Time and frequency (overview of time and frequency scales, instruments).
- Length (Units, simple instruments, influence of temperature).
- Problem solving (experimental design, thought experiments, tools for thought).
- Instrumentation (instrument characteristics and specifications such as hysteresis, resolution, linearity, etc., interpreting specifications).
- Data logging techniques and software.

Recommended Reading


HIR103 Calibration, Documentation and Laboratory Management

12.5 Credit Points • 1 Semester • Hawthorn • Prerequisite: Nil • Teaching methods: Distance Education.

Aims & Objectives

- To understand the purpose and benefits of a quality system.
- To develop technical skills for writing and updating a quality manual.
- To understand the different quality standards and their purpose.
- To understand the calibration process.
- To manage a reasonably complex measurement system.

Content

- Introduction to Management of a Quality System.
- What is quality and why manage it?
- Relationship between metrology and quality.
- Develop understanding of quality, demonstrating its importance to trade and to operating a sustainable successful business enterprise.
- Quality management and its current style of application.
- Reasons behind the success of quality management.
• How do we manage for Quality?
• Concepts and tools for managing with quality.
• Application of the quality management concepts and tools.
• How do we implement a Quality Management System?
• Understand the place of quality management systems within the broader context of TQM.
• Identify the most appropriate quality system standard and its purpose and benefits for different organisations.
• Identify the required procedures.
• Write a quality manual, procedures and work instructions.
• Plan and execute the development and implementation of a quality system.

Calibration of Measuring/Test Equipment:
• Requirements of quality standards with respect to traceability.
• What elements require calibration and to what standard?
• NATA accreditation.

Care and use of reference equipment:
• Understanding what equipment is necessary for ‘in-house’ calibration of measuring/test equipment.
• The use of and the environment in which the reference equipment is used.

Laboratory Management:
• Resource management.
• Economics of calibration.
• Managing projects.
• Managing communications (outside and inside).
• Establishment and Maintenance of documentation/records.

Recommended Reading
ISO Standards on Quality: GS 9000.

HIR104 Metrology and Quality Practices
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Teaching methods: Distance education plus some lectures, tutorials and laboratory exercises. • Assessment: Assignment and Laboratory work.

Aims & Objectives
• To show an understanding of the elements of metrology and quality by competent verbal responses and demonstration of technical skills.
• To be able to design practical measurements according to metrological practices and standards.
• To acquire practical skills in carrying out experiments and measurements using standard equipment and instruments.
• To analyse the results of real experiments and to report the findings using accepted techniques and procedures.

Content
There are four areas of specialisation, and students will select one of the specialisations.

Dimensional and Mechanical:
• Gauge blocks and length bars.
• Polygons and angle gauges.
• Vernier callipers.
• Micrometers.
• Dial gauges.
• Surface plates.
• CMM’s.
• Interferometry.
• Diameter standards.
• Roundness.
• Surface roughness.
• Flatness.
• Straightness.
• Comparators.
• Autocollimators.
• Influence of temperature and humidity.
• Compressions corrections.
• Interpreting documentary standards.

Electrical and Time and Frequency:
• Instruments.
• Voltage standards.
• Null detectors.
• DC and AC bridges.
• RF power measurement.
• RF power network analysers.
• Impedence measurement.
• Frequency standards.
• Analysis of errors.

Chemical and Temperature:
• Reference materials.
• Volumetric and dilution techniques.
• Titation techniques.
• Sampling techniques.
• Deconvolution methods.
• Data libraries and software.
• Chromatography (LC, IC, GC and HPLC).
• Spectroscopy (IR and UV/Visible spectroscopy and AA).
• Influence of matrix.
• Stability.
• pH.
• Sample handling and storage.
• Particle size analysis.
• Viscosity.
• Physical testing (tensile).
• TOC.

Optical and Radiometry:
• Radiometry: measurement of spectral properties of radiation sources (for example, to determine UV emission).
• Solar simulators, radiation detectors.
• Colorimetry: measurement of surface colour (paints, dyes, photographic film), measurement of surface colour light sources (signal lights, colour TV), colour rendering index.
• Photometry: measurement of luminous flux, luminous intensity, luminous efficiency – light meters.
• Optical fibres: measurement of optical properties of a fibre.
• Using optics to measure distance, angle, surface shape, and other geometric features.
• Turbidity/scatter measurement: measurement of level of pollution in samples of air, water, and substances.
• Visual inspection.

Recommended Reading
Coursework and laboratory notes, references from the other units.
HIR105 Computer Aided Design

Aims & Objectives
- To provide students with the opportunity to learn the fundamentals of CAD.
- To provide a degree of competency in using a CAD system.
- To enable students to work on realistic CAD project related to product design.

Content

CAD Hardware and Software:
- Elements of a CAD system.
- Workstation environment.
- Graphic processors.
- Graphic terminals.
- Data storage and input devices.
- Output devices.
- CAD software and operating systems.
- CAD exchange standards: IGES, PDES, STEP, STL.
- Issues in implementation and data management.

Geometric Modelling:
- The design process and role of CAD.
- 2D and 3D graphic elements: points, lines, curves, zooming, panning, mirror image, symbol libraries, parametric design.
- Windowing and clipping.
- 2D and 3D translation, rotation, scaling matrices and applications.
- Hiddenline algorithms.
- Mass property algorithms.
- Shading.

Recommended Reading

HIR106 Product Management and Innovation

Aims & Objectives
- Successful products must meet internal and external customer needs and satisfy the ultimate consumer/user while complying with the internal business objectives of the designer/producer company. These general product requirements are equally valid whether the products are services or physical goods. This Subject focuses on the design and management processes required for successful introduction of a new physical product, within an integrated engineering/production operation. The objectives of this Subject are:
  - To understand the product and customer drivers in the development of successful products.
  - To place product design in an overall system context and understand how to develop the related functional requirements and attributes.
  - To enable new product concepts to be evaluated as business decisions and to integrate functional, financial and strategic objectives. Understand business and technical processes.
  - To demonstrate application of Product Management methods in target setting and implementation control through the design research project.

Content

Market Driven Products:
- Understanding customer needs and wants.
- Techniques used in product innovation.
- Opportunities for innovation: new and replacement products.
- Market research: use and understanding.
- Customer definition of function.
- Developing product positioning statements.

The Product/Business Equation:
- Affordability analysis.
- Musts, wants and priorities.
- Targets deployment - ensuring organisational compatibility.
- Planning product value.

Developing the Product:
- Customer requirements to engineering requirements.
- Design optimisation - maintaining objectives compatibility.
- Verification of design: ensuring satisfaction in advance.

Product Management:
- Understanding and managing innovation.
- Mapping and optimising processes.
- The Time Factor.
- Program management approaches.
- Management information systems.

Recommended Reading
Healy, P., Project Management: Getting the Job Done on Time and in Budget, Butterworth- Heinemann, Newton, USA, 1997.
To provide an understanding of the relationship between part quality and processing.

- Ability to select materials for moulding.

- An understanding of the design principles and practice of moulding.

- An understanding of computer simulation technology and its range of applicability.

- An understanding of the state of the art in computer simulation.

- The ability to implement computer simulation in the design process.

- Skills to perform simulation of injection moulding.

- Skills to interpret the results of computer simulation.

- Utilisation of new technologies such as gas injection moulding in product design.

- Understanding of structural analysis for injection moulded parts (eg. clip design).

**Content**

- Overview of processes used in the manufacture of plastic products: design factors and cost.

- Review of computer simulation software used in plastic product design and manufacture, and recognise such software applications for other materials.

- Introduction to material properties and their measurement: viscosity, PVT, thermal properties, mechanical properties.

- Introduction to injection moulding simulation: application of simulation, FEM, modelling techniques, interpretation of results.

- Part Design for Injection Moulding: location and number of gates, wall thickness considerations, runner and gate design, weld line location, optimisation.

**Recommended Reading**


**HIR108 Computer Simulation and Optimisation for Plastic Products**

- 12.5 Credit Points  5 Weeks  Hawthorn  Prerequisite: Nil  Teaching methods: Lectures, tutorials and hands-on workshops, case studies.  Assessment: Project 100%.

A subject in the Graduate Certificate of Engineering (Product Design Innovation) and Master of Engineering (Product Design Innovation).

**Aims & Objectives**

Injection moulding is a common process for manufacture of large numbers of plastic parts having complex part geometry. A characteristic of the process is the dramatic effect processing has on part performance. In recent years computer simulation has become an invaluable aid for assessing design of parts. This course aims to provide students with:

- An understanding of the relationship between part quality and processing.

- Ability to select materials for moulding.

- An understanding of characterisation of material properties for simulation.

- An understanding of computer simulation technology and its range of applicability.

- An understanding of the state of the art in computer simulation.

- The ability to implement computer simulation in the design process.

- Skills to perform simulation of injection moulding.

- Skills to interpret the results of computer simulation.

- Utilisation of new technologies such as gas injection moulding in product design.

- Understanding of structural analysis for injection moulded parts (eg. clip design).

**Content**

- Overview of processes used in the manufacture of plastic products: design factors and cost.

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- Introduction to material properties and their measurement: viscosity, PVT, thermal properties, mechanical properties.

- Introduction to injection moulding simulation: application of simulation, FEM, modelling techniques, interpretation of results.

- Part Design for Injection Moulding: location and number of gates, wall thickness considerations, runner and gate design, weld line location, optimisation.

**Recommended Reading**


Kinematic Modelling:
- Elements of kinematic and robotics models.
- Modelling techniques.
- Modelling of mechanisms and robot cells, applications.

NC Machining of CAD Models:
- Steps in producing part programs from a CAD system.
- Modelling.
- Machining strategy.
- Tool path generation.
- APT file creation.
- Post processing.
- Verification of part programs.

Space Curves and Surfaces:
- Theory of curves and surfaces used in CAD systems.
- Parametric representation of curves and surfaces.
- Bézier curves and surfaces, patch surface.
- NURBS curves and surfaces, relationship to CAD.

Parametric Design:
- Introduction to parametric design and its applications.
- Parametric modelling techniques.
- Use of high level languages and CAD.
- Examples of parametric modelling software.

Form Feature Design and Solid Modelling:
- Design by features.
- Creating form features.
- Feature extraction.
- Libraries, applications, modelling.
- Interference checking for assembly.

Virtual Reality:
- Introduction.
- Design and prototyping.

Recommended Reading

HIR110 Microlithography
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Teaching methods: A 5-week modular format, consisting of lectures, tutorials and hands-on laboratory sessions, with coursework materials delivered within the first two weeks. • Assessment: Assignments (25%) and Examination (75%).

Aims & Objectives
Microlithography is the most used technology for the fabrication of micron size features on planar surfaces. It involves the local physical or chemical alteration of a thin film deposited on an existing planar structure, followed by the selective removal of the altered or unaltered material, for positive and negative tone lithography, respectively. The mastering of microlithography requires knowledge of polymeric materials, radiation chemistry, optics, and chemical engineering. To achieve this, the unit has the following objectives:
- To develop an understanding of the deposition of polymer films on planar structures.
- To provide an understanding of the radiation-based and alternative means of altering locally at the (sub)micron level the thin films, as well as the associated equipment.
- To develop an understanding of the radiation and thermally induced physico-chemistry of polymeric sensitive materials and the impact of their characteristics on the quality of microlithographic process.
- To develop the understanding regarding the trade-offs regarding exposure methods and equipment, polymeric materials characteristics, and microlithographic technologies.
- To develop the understanding regarding the application of microlithography in non-classical areas, such as patterning of bio-molecules and cells.

Content
Microlithography Fundamentals:
- The optics of printing micron-sized features.
- Short overview of polymer materials physico-chemistry.
- Short overview of radiation induced chemistries.
- Positive and negative photoresists and polyimides.

Microlithography process:
- Deposition techniques.
- Softbake and postexposure bake.
- Exposure techniques.
- Development techniques.
- New alternatives for exposure (soft lithography, AFM lithography) and development (dry development) technological steps.
- Limiting factors regarding resolution and aspect ratios.

Modelling, Simulation and quality control:
- Modelling of optical processes.
- Modelling of exposure.
- Modelling of development.
- Software (ProLith).
- Defect control theory and simulation.

Application of microlithography in biotechnology:
- ‘Chips’ fabrication for genomics and proteomics.
- Cellular patterning.

Recommended Reading

HIR111 Micromachining Technology
12 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Teaching methods: Five week modular format consisting of lectures, tutorials and hands-on laboratory sessions. • Assessment: Assignments (20%), Laboratory (10%) and Examination (70%).

Aims & Objectives
- To provide a thorough coverage of the Micromachining techniques currently employed for the fabrication and assembly of micromachines for various applications.
- To develop an understanding of the science underlying different techniques.
- To provide awareness of different processing technologies.

Content
Role of lithography in Micromachining:
- Importance of lithography in the fabrication of micro devices and systems.
- Etching or lift-off methods.
- Mask-manufacturing techniques.
Bulk Micromachining versus Surface Micromachining:
- Bulk micromachining, origin, silicon, crystal physics, isotropic and anisotropic.
- Etching, EDP, KOH and TMAH etching techniques.
- Etch stop techniques, electrochemistry behind these processes.
- Dry etching, Plasma etching, RIE, DRIE techniques.
- Selection criteria for choosing a process.

Laser Micromachining:
- Lasers: basic principles, variety of lasers, Ablation process.
- Laser micromachining.
- Discussion with case studies (for few typical applications).
- Drawbacks and solutions.

Surface Micromachining Processing technologies:
- Bonding techniques.
- Direct bonding, Anodic bonding, Eutectic bonding and soldering.
- Precision Machining.
- Electro discharge machining.
- Micro assembly techniques.
- Micro manipulators, aligners etc.

Integration issues:
- Importance of CMOS technology.
- Need for integration of electronics and mechanical systems.
- Status review.

Packaging:
- Introduction to packaging.
- Materials and methods.
- Performance and reliability issues.

Recommended Reading

HIR114 Deposition and Replication
12 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Teaching methods: Five week modular format consisting of lectures, tutorials and student work presentations.
- Assessment: Assignments (15%), Laboratory (15%) and Examination (70%).

Aims & Objectives
- To provide an overview of the commonly used thin film deposition techniques (PVD & CVD).
- To give an idea of basic methods of material and thin film analysis.
- To create an awareness of intricacies involved in the metallisation of patterned and high aspect ratio structures.
- To demonstrate the usefulness of the conventional injection moulding, embossing and extrusion techniques in the fabrication of micro systems.

Content
- Material Physics – Properties.
- Crystal structures, Microstructure, composition, mechanical, electrical, thermal and optical properties of materials.
- Thin film deposition technology.
- PVD vs CVD.
- Necessity of vacuum, vacuum generation and measurement, physical vapour deposition technology – evaporation, sputterning, arc deposition and ion beam deposition processes.
- Chemical vapour deposition - Si3N4, SiO2 and poly-silicon deposition, Sol-gel technique, LPCVD.
- Thick film deposition.

- Electroplating- science and technology - electrochemistry - Plating through mask - electroplating of commonly used materials eg. Ni, Permalloy, copper, gold.
- Metallisation of patterned or high aspect ratio structures.
- Shadowing effects, overhangs and defects, modelling, drawbacks and solutions.
- Material and thin film analysis.
- LIGA technology – 3 dimensional structures fabrication and replication.
- Injection moulding, embossing and extrusion techniques and experimental demonstration.

Recommended Reading
Aims & Objectives
Microsystems Technology involves the use of various computer based design tools to create digital prototypes to represent the geometry and to simulate the behaviour of the product under various conditions and assess their performance. This unit aims to provide students with an understanding of a number of advanced computer aided design tools which play a significant role in product design. To achieve this aim, the unit has the following objectives:

- To develop an understanding of the application of the elements of CAD in the design process.
- To provide technical skill to use FEM/FEA computer modelling and analysis software in the design of micro-devices.
- To provide an appreciation of the importance of advanced computer aided design and fabrication techniques through application.
- To develop an understanding of the role of surface modelling in the design process.
- To develop technical skills for creating kinematic models and analysing their performance using CAD.
- To provide an opportunity to the students to learn and use the MEMS-CAD software to design and simulate micro systems for various applications.

Content
Finite Element Analysis:
- Fundamentals of FEA.
- 2D and 3D elements.
- Modelling technique.
- Mesh generation.
- Linear and non-linear static analysis.
- Dynamic analysis.

Kinematic Modelling:
- Elements of kinematic and robotics models.
- Modelling techniques.
- Modelling of mechanisms and robot cells, applications.

NC Machining of CAD Models:
- Steps in producing part programs from a CAD system.
- Modelling.
- Machining strategy.
- Tool path generation.
- APT file creation.
- Post processing.
- Verification of part programs.

Space Curves and Surfaces:
- Theory of curves and surfaces used in CAD systems.
- Parametric representation of curves and surfaces.
-Bezier curves and surfaces, patch surfaces.
- NURBS curves and surfaces, relationship to CAD.

Parametric Design:
- Introduction to parametric design and its applications.
- Parametric modelling techniques.
- Use of high level languages and CAD.
- Examples of parametric modelling software.

Form Feature Design and Solid Modelling:
- Design by features.
- Creating form features.
- Feature extraction.
- Libraries, applications, modelling.
- Interference checking for assembly.

Virtual Reality:
- Introduction.
- Design and prototyping.

MEMS CAD Tools:
- Design and simulation of microsystems including all aspects of design (eg., thermal, electrical, mechanical) and microfluidics.

Recommended Reading
Aims & Objectives
To enable students to identify and understand the various manufacturing technological approaches commonly used within modern manufacturing enterprise. To provide an introduction to current engineering best practices.

Content
- Manufacturing processes.
- Concurrent Engineering.
- Computer Aided Design.
- Flexible Manufacturing Systems.
- Robotics and Automation.
- Process Control.
- Expert Systems.
- Simulation.
- Sensors.
- Concepts of mission critical requirements.

Recommended Reading

HIR601 Process Improvement
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment: Examination and Assignment.
A subject in the Graduate Diploma and Master of Engineering (Industrial Information Technology).

Aims & Objectives
To introduce students to the various aspects of process improvement and issues associated with Change Management. To provide an understanding of the meaning, measurement and management of productivity and quality.

Content
Cover methodologies such as:
- Productivity concepts and definition.
- Quality concepts and definition.
- Performance measurement.
- Mathematical models and benchmarking concepts.
- Issues related to change management.
- Introduction to team dynamics.

Recommended Reading

HIR602 Enterprise System Concepts
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Basic Computing, Networking and Programming • Assessment: Examination and assignments.
A subject in the Graduate Diploma and Master of Engineering (Industrial Information Technology).

Aims & Objectives
To introduce students to major components and concepts within enterprise systems, including the architecture overview of major ERP systems.

Content
- Architecture Overview of Enterprise systems.
- Introduction to configuration of Enterprise Systems.

Recommended Reading
Compiled lecture notes and reference manuals supplied by system vendors.

HIR603 Implementing Enterprise Systems
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Basic Computing, Networking and Programming • Assessment: Examination and Assignment.
A subject in the Graduate Diploma and Master of Engineering (Industrial Information Technology).

Aims & Objectives
To enable students to study and understand the typical implementation process of an enterprise system.

Content
- Overview of major components and tasks within the implementation process.
- Typical issues related to the implementation process.
- Case studies of implementation using SAP/JDE/Visual Manufacturing within the manufacturing enterprise.

Recommended Reading
Compiled lecture notes and reference manuals supplied by system vendors.

HIR604 Factory Communication and Interfacing
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Basic Computing, Networking and Programming • Assessment: Examination and Assignments.
A subject in the Graduate Diploma and Master of Engineering (Industrial Information Technology).

Aims & Objectives
To provide a theoretical background within the field of factory communication and interfacing. To develop practical programming skills in the area of interfacing production equipment within the factory environment.

Content
- Computers and Controls within manufacturing.
- Principal of data communication.
- Serial data communication.
- Data Acquisition.
- Wireless communication technologies.

Recommended Reading

HIR702 Minor Thesis
50 Credit Points • One semester • Hawthorn • Prerequisite: Nil • Teaching methods: Minor Thesis • Assessment: Project/Thesis 100%.
A subject in the Master of Engineering (Industrial Information Technology).

Aims & Objectives
To provide an opportunity for students to develop analytical, research and thesis writing skills while exploring a topic in depth.

Content
Students will work on an approved project under staff supervision. Projects will require a literature survey and a theoretical or experimental investigation. Where appropriate, the projects should be industry sponsored and have direct relevance to the student’s area of employment.

There will be a requirement for formal monthly reporting by the candidates, both oral and written, throughout the project. Failure to meet satisfactory standards of progress may preclude final submission for the Masters degree. Students will present their research results to staff and students in a school seminar or equivalent. The thesis will be examined by at least two examiners.

Recommended Reading
As appropriate to be prescribed by the project supervisor.
HIT1009  Business Programming 1
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil
A subject in the Bachelor of Information Systems and Bachelor of Information Systems/Bachelor of Business.
Aims & Objectives
• To introduce students to the basic programming knowledge utilised in a business and organisational programming environment.
• To give students the skills to be able to create and maintain small business software applications using structured event-driven object-based programming environment.
Content
• Introduction to event driven/object oriented programming concepts, user interface, objects, properties and events.
• Introduction to structured programming constructs of sequence, condition and iteration.
• Data types, variables, 1-dim variable and central arrays, arithmetic, validation, selected standard functions, testing strategies and debugging techniques.

References

HIT1012  Information Systems and Programming
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil
Teaching methods: Lectures, Laboratory • Assessment: Assignments, Examinations.
A subject in the Bachelor of Business for part-time students only (runs only in Semester 2).
Aims & Objectives
• To instil in students the confidence to use information technology and give a broad understanding of information systems in the business environment.
• To provide students with opportunities to acquire computer skills that will be of benefit to them in other discipline subjects and in their later careers.
• To give students basic programming knowledge that can be utilised in a number of different programming environments, languages and advanced computing subjects.
• To give students the skills to be able to create and maintain small business software applications using an event-driven object-based programming environment.
• To provide students with additional non-examinable information that may prove useful for those students who want to create applications outside of this subject.
Content
• Theory of information systems, as used by business and organisations.
• An overview of modern business computing: management needs and information technology solutions.
• Introduction to the basic concepts involved in computer hardware, computer software, data communications.
• Introduction to concepts and skills involved in the use of spreadsheets, databases and the Internet.
• Introduction to object-oriented programming approach including sequence, selection, iteration, procedures, functions, repetition and arrays.

References

HIT1015  Computer Systems
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT1031 • Teaching methods: Lecture, Laboratory • Assessment: Assignments, Examinations.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Multimedia (Multimedia Software Development), Bachelor of Software Engineering.
Aims & Objectives
Computer Systems is a core subject in all Computer Science degrees providing a general introduction to the hardware and software in today's computer systems.
Objectives:
• To understand the fundamental concepts of computer systems.
• To gain experience in assembly language programming.
Content
• Functions and components of computers.
• Data representation.
• Computer logic.
• Elementary assembly language programing.
• Secondary storage and input/output devices.

References
To be advised.

HIT1025  Introduction to Information Systems
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture, Laboratory • Assessment: Assignments, Examinations.
A subject in the Bachelor of Information Systems and Bachelor of Information Systems/Bachelor of Business. Note: This subject is available to BBus and BIS students only.
Aims & Objectives
• To instil in students the confidence to use information technology, particularly computers.
• To give all students a broad understanding of information systems in the business environment.
• To endow students with computer skills that will be of benefit to them in other discipline subjects, and in their later careers.
• To provide a firm basis as a pre-requisite for second and third level computing subjects.
Content
• Theory of information systems, as used by business and organisations.
• Word Processing using Microsoft Word.
• Spreadsheets, using Microsoft Excel.
• Database using Microsoft Access.
• Email.
• The Internet.

References

HIT1031  Introduction to Software Engineering
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT1051 • Conquisites: HIT1052 • Teaching methods: Lectures (2 Hours per week), Tutorials (1 Hour per week). • Assessment: Assignments, Examinations.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Science (Computing), Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Information Systems, Bachelor of Information Systems/Bachelor of Business, Bachelor of Information Technology, Bachelor of Multimedia (Multimedia Software Development), Bachelor of Software Engineering, Bachelor of Engineering (Robotics & Mechatronics), Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Science (Computer Science & Software Engineering).
Aims & Objectives
- To introduce the basic problems that are encountered in the development of software in a small team environment.
- To examine some of the current techniques and tools which are used by industry to address the above problems.
- To allow students to experience the preparation of systems development documentation, working as members of small teams (2-4 persons) using an object-oriented development perspective.

Content
- What is software engineering?
- The software development lifecycle.
- Techniques for requirements elicitation.
- Software design as an incremental, iterative process.
- Software defect management, including defect identification and fault detection.
- Software validation and verification.

References

HIT1051 Software Development 1
12.5 Credit Points • 1 Semester • 57 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture, Tutorial, Laboratory • Assessment: Assignments, Examinations.
A subject in the Bachelor of Science (Computing), Bachelor of Science (Computer Science and Software Engineering), Bachelor of Business and Information Technology, Bachelor of Multimedia (Multimedia Software Development), Bachelor of Multimedia (Networks and Computing), Bachelor of Engineering (Telecommunications and Internet Technologies), Bachelor of Engineering (Robotics & Mechatronics), Bachelor of Science (Physics), Bachelor of Science (Physics)/Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives
- To introduce basic concepts of object-oriented analysis and design.
- To introduce object-oriented programming using Java.
- To study the main features of the software development process in an object-oriented framework.

Content
- The object-oriented world view.
- Introduction to object-modelling.
- Introduction to implementation of objects and classes.
- Contracts: pre and post conditions and assertions.
- Control structures.
- Input-output.
- Event-driven programs.
- Introduction to class libraries.
- Use of an OOD notation.

Textbook
Allen, R.K., Bluff, K., Oppenheim, A.B., Object-Oriented Software Development 1, 5th Edn., Swinburne, 2001. [contains lecture notes and laboratory material].

References
Lewis, J., Loftus, W., Java Software Solutions, Addison-Wesley, 1998.

HIT1052 Software Development 2
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: HIT1051 • Teaching methods: Lecture (2 hours per week), Laboratory/Tutorial (2 hours per week) • Assessment: Assignments, Examinations.
A subject in the Bachelor of Science (Computer Science & Software Engineering), Bachelor of Science (Computing), Bachelor of Engineering (Robotics & Mechatronics), Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Engineering (Telecommunications & Internet Technologies), Bachelor of Science (Computer Science & Software Engineering), Bachelor of Information Systems, Bachelor of Information Systems/Bachelor of Business, Bachelor of Information Technology, Bachelor of Multimedia (Multimedia Software Development), Bachelor of Multimedia (Networks and Computing), Bachelor of Engineering (Telecommunications and Internet Technologies), Bachelor of Software Engineering, Bachelor of Science (Photronics), Bachelor of Science (Photronics)/Bachelor of Engineering (Telecommunications & Internet Technologies).

Aims & Objectives
- To extend and strengthen basic concepts of object-oriented analysis and design.
- To continue and extend object-oriented programming using Java.
- To study the main features of the software development process in an object-oriented framework.
- To study the GUI development process using Java.

Content
- Intermediate Programming.
- The dynamic model.
- Java language and Java system.
- Graphical User Interface programming in Java.
- Exceptions.
- Files and streams.
- Design principles and introduction to patterns.

References

HIT1091 Web Development
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HIT1051. Preclusion: HIT3041 • Teaching methods: Lecture (2 Hours per week), Laboratory (1 Hour per week) • Assessment: Assignments, Examinations.
A subject in the Bachelor of Science (Computer Science and Software Engineering) and Bachelor of Software Engineering.

Aims & Objectives
To introduce the technology of the Internet and World Wide Web and to develop an understanding of the technologies associated with programming for the World Wide Web.

Content
- Introduction to the World Wide Web - definition, history and fundamental concepts.
- HTML - document structure, images, links, maps, tables, frames, forms.
- Protocols and server technology - HTTP, TCP/IP, MIME, URIs, CGI, server technology.
- JavaScript - syntax, DOM, forms processing, common tasks.
- Style Sheets - fundamentals, CSS formatting, CSS positioning, standards.
- DHTML - dynamic techniques, proprietary techniques, data-aware documents.
- Web design and usability - principles of navigation, usability, style guides, standards.
- Introduction to XML - syntax, DTDs, XSL, XHTML.
- Multimedia - audio, video, animation, multimedia server and protocol technology.
- Web development tools - editors, site management tools.

Textbook
Aims & Objectives

- To introduce basic concepts of object-oriented analysis and design.
- To introduce object-oriented programming using Java.
- To study the main features of the software development process in an object-oriented framework.

Content

- The object-oriented world view.
- Introduction to object-modeling.
- Introduction to implementation of objects and classes.
- Contracts: pre and post conditions and assertions.
- Control structures.
- Input-output.
- Event-driven programs.
- Introduction to class libraries.
- Use of an OOP notation.

Textbook

Allen, R.K., Bluff, K., Oppenheim, A.B., Object-Oriented Software Development 1, 5th Edn., Swinburne, 2001. (contains lecture notes and laboratory material)

References


References


Stein, L., How to Set up and Maintain a Web Site, 2nd Edn., Addison-Wesley, 1997.


HIT2005 Information Technology Infrastructure

12.5 Credit Points • 1 Semester • 57 Hours per Week • Hawthorn • Prerequisite: HIT1025 • Corequisites: Nil • Teaching methods: Lecture, Laboratories • Assessment: Assignments, Group Work, Presentations, Examination

A core subject in the Bachelor of Information Technology and available as an elective in the Bachelor of Information Systems and the Bachelor of Business/Bachelor of Information Systems

Aims & Objectives

To provide a practical introduction to contemporary computer hardware, operating systems and networks.

Content

- Hardware: PC architecture, components and peripherals.
- Networks: major network architectures, Novell, Microsoft, network administration, security
- Globalisation.
- Operating systems: Windows and Linux operating systems, architecture, system administration and security
- Business process reengineering and workflow.
- The Human Computer interface.
- Management of corporate IT infrastructures: acquisition, deployment and maintenance.

References


HIT2006 Business Computing

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT1025 • Corequisites: Nil • Teaching methods: Lecture, Laboratory, Tutorial • Assessment: Assignments, Examination, Tutorial tasks/tests

A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Information Systems and Bachelor of Information Systems/Bachelor of Business.

Aims & Objectives

- To develop students’ understanding of how Information Technology is used to solve business problems.
- To understand how different types of information system are used within an organisation.
- To see how information technology may be used for competitive advantage by an organisation.
- To extend students’ problem solving skills with user tools software, particularly Excel.

Content

- Electronic Commerce.
- Information System, with an emphasis on decision support systems.
- Problem solving.
- Systems development with an emphasis on ‘end user’ computing.
- The Human Computer interface.
- Business process reengineering and workflow.
- Globalisation.
- Advanced Excel.

References


A detailed reading guide will be issued for each topic and will include articles from industry journals and newspapers.

HIT2010 Business Programming 2

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT1009 or HIT1051 or equivalent introductory programming subject • Teaching methods: Lecture, Tutorial, Laboratory • Assessment: Assignments, Examinations, Online Tests

A subject in the Bachelor of Information Systems and Bachelor of Information Systems/Bachelor of Business.
Aims & Objectives
- To build on the programming skills and concepts learned in Business Programming 1.
- To give students an understanding of sound software engineering principles through programming in structured language within an event-driven environment (currently Visual Basic).

Content
Topics covered include:
- Program structure.
- Data structure.
- File I/O (Input/Output).
- Data validation.
- Multiple dimension arrays.
- Subprocedures and functions.
- Modules and multiple forms.
- Reporting.
- Database links and manipulation.
- User defined data types and classes.
- Active-X controls.

References

HIT2015 COBOL Programming
12.5 Credit Points  •  1 Semester  •  36 Hours  •  Hawthorn  •  Prerequisite: HIT1051 or HIT1009 or equivalent introductory programming subject.  •  Teaching methods: Lectures, Tutorials, Laboratory  •  Assessment: Assignments, Examination, Test.
A subject in the Bachelor of Information Systems, Bachelor of Information Systems/ Bachelor of Business, Bachelor of Information Technology.

Aims & Objectives
- To give students a sound understanding of the principles and practice of procedural programming.
- To produce students worthy of immediate hire as trainee programmers in a commercial Cobol environment.

Content
- Programming process, from problem definition through to program testing.
- Importance and philosophy of testing, and designing a testing strategy for a given program specification.
- Designing a logical structured solution to a problem using structure charts and pseudocode.
- Reading, understanding, modifying and debugging COBOL programs.
- Designing, coding, testing, and documenting attractive, well-structured programs in COBOL involving - sequential files, indexed files, reports, control breaks, data validation, character string manipulation, tables, arithmetic.

References
Bailey, E., Cobol Course Notes, SUT, 2000.

HIT2016 Database 1
12.5 Credit Points  •  1 Semester  •  46 Hours  •  Hawthorn  •  Prerequisite: Nil  •  Teaching methods: Lectures, Tutorials, Laboratory  •  Assessment: Assignments, Examinations.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Engineering (Robotics & Mechatronics) & Bachelor of Science (Computer Science & Software Engineering), Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Information Technology, Bachelor of Information Systems, Bachelor of Information Systems/Bachelor of Business, Bachelor of Multimedia (Multimedia Software Development) and Bachelor of Software Engineering.

Aims & Objectives
- To provide a solid theoretical foundation to the fundamentals of database design and database systems development.
- To provide sufficient practical exposure to designing and using database so as to equip students for basic database tasks in industry and government.
- To provide students with experience in the analysis, design and generation of a simple inquiry and update system, using ORACLE.
- To give students an understanding of the problem in its context, the need for adequate documentation of the system and management of this data to ensure that the information produced is relevant, accurate and maintainable. Students will use conceptual data analysis methods to produce a logical data model.

Content
- Information in the organisation.
- The relational data model.
- Structured Query Language (SQL).
- Functional dependency diagrams.
- Entity relationship analysis.
- Client server database technologies.
- Normalisation of data.
- DBMS terminology and concepts.
- Data integrity.

References

HIT2020 Data Communications
12.5 Credit Points  •  1 Semester  •  36 Hours  •  Hawthorn  •  Prerequisite: HIT1052  •  Corequisites: HIT1052  •  Teaching methods: Lectures (2 Hours per week), Laboratory (2 Hours per fortnight)  •  Assessment: Assignments, Examinations.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Engineering (Robotics & Mechatronics) & Bachelor of Science (Computer Science & Software Engineering), Bachelor of Multimedia (Multimedia Software Development), Bachelor of Software Engineering.

Aims & Objectives
- To introduce the fundamental concepts and components involved in data communications.
- To develop an understanding of communication protocols and computer networks.

Content
- Historical evolution of computer communications, standards, reference models, protocol architecture and implementation.
- Basic communication theories and terminologies: transmission media, signal types, interface standards.
- Protocol basics: error control methods, flow control, link management, HDLC (high level data link control) protocol.
- Local area networks: topologies and overview of MAC (media access control) methods.
• Overview of network and transport layer issues.
• Network security, encryption, firewalls.
• Electronic Mail.
• Multimedia Communications and protocols.
• World Wide Web and Hypertext Transport Protocol (HTTP).

References

HIT2024 Introduction to Human-Computer Interaction
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Introductory Programming e.g. HIT1009 or HIT1051 • Teaching methods: Lecture (2 Hours per week), Laboratory/Tutorial (1 Hour per week) • Assessment: Assignments, Examination.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Science (Computing), Bachelor of Engineering (Robotics & Mechatronics) / Bachelor of Science (Computer Science & Software Engineering), Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Information Systems, Bachelor of Multimedia (Multimedia Software Development), Bachelor of Software Engineering.

Aims & Objectives
• To introduce the process of user centred system design.
• To introduce the technology of the user interface.
• To introduce the basic underlying theory of interaction.

Content
• What is HCI and why is it needed?
• Human information processing and human error.
• Models of the user and interaction.
• Principles and applications of user-centred design.
• User-centred design methodologies.
• Interface technology, devices, styles and applications.
• Up stream usability engineering, task, user and situation analysis.
• Down stream usability engineering, experimental, interpretive and predictive evaluation.
• Visual and interface design guidelines, standards and metrics.
• Usability issues and the World Wide Web.
• Groupware and Computer Supported Cooperative Work.

References

HIT2049 Systems Analysis & Design
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT1025 • Prerequisite: HIT1051 • Teaching methods: Lectures, Tutorials • Assessment: Assignments, Examinations.
A subject in the Bachelor of Information Systems and Bachelor of Information Systems/Bachelor of Business.

Aims & Objectives
To equip the student with the necessary knowledge, skills, models and techniques to model business problems in both the Structured and Object-Oriented systems development paradigms. To concentrate on the front-end phases and activities of the Systems Development Life Cycle (SDLC).

Content
• Understanding a problem in its business context.
• Introduction to Project Management tools and techniques relevant for a Systems Analyst.
• SDLC models.
• Approaches to Systems Development.
• Investigating Systems requirements.
• Structured and Object-Oriented modelling techniques to model various perspectives of the system.
• Modelling techniques are Structured Paradigm, context diagram, data flow diagrams, data element and data flow definitions and process descriptions.
• Object-Oriented Paradigm: OOD context diagram, class analysis diagram, use-case diagram, activity diagram, sequence diagram.

References

HIT2079 Computing for Chemists
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture/Tutorial (2 Hours per Week), Laboratory (2 Hours per Week) • Assessment: Laboratory Assignments, Examination.
A subject in the Bachelor of Science (Biochemistry) and Bachelor of Science (Biotechnology).

Aims & Objectives
• Introduce students to computing concepts, provide an appreciation of computer systems, their hardware and software.
• Provide training and insights into a selection of relevant software application packages.
• Provide a brief exposure to programming.

Content
• Computer hardware: typical Personal Computer Systems, an overview of computer architecture, peripheral devices, communications and up to date means of input and output of data.
• Software tools: operating system commands and their use, relevant application packages such as a word processor, spreadsheet, database etc.
• An introduction to programming in a high level language, including particular reference to its use in the software packages being studied.

References
Manuals or texts referring to Microsoft Windows, Word, Excel and QBASIC.

HIT2080 Introduction to Programming C
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture, Laboratory (2 Hours per Week each) • Assessment: Assignments, Examinations.
A subject in the Bachelor of Science (Medical Biophysics & Instrumentation), Bachelor of Science (Psychology/Psychophysiology, Bachelor of Engineering (Biomedical Engineering), Bachelor of Engineering (Electrical & Electronic Engineering), Bachelor of Engineering (Electronics & Computer Systems), Bachelor of Science (Biomedical Sciences).
Note: This course is only available to students in engineering and non-IT courses.

Aims & Objectives
• To introduce imperative programming principles.
• To introduce the C programming language.

Content
• Algorithmic approach to problem solving.
• Program design methodology.
• C Basics.
• The simple data types (int, float, etc.).
• Control of flow.
• Arrays.
• Functions.
• C string handling with standard libraries.
• Elementary data structures and data types.
• Sequential file I/O.
• Pre-processor commands.
References
Many other texts using ANSI C are suitable.

HIT2092 Advanced Web Technologies
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HIT1091 and HIT1051 or HIT1092 • Corequisites: Nil. Preclusion: HIT3041 • Teaching methods: Lecture (2 Hours per Week), Laboratory (1 Hour per Week) • Assessment: Assignments, Examinations.
A subject in the Bachelor of Science (Computer Science and Software Engineering) and Bachelor of Software Engineering.

Aims & Objectives
To introduce the technologies, concepts and techniques associated with the development of complex Web-based applications.

Content
- Review of web technologies - HTML, StyleSheets, JavaScript, DHTML
- Web Servers - PWS, IIS, Apache
- Database concepts - SQL, ADO, RDS
- CGI Programming - CGI concepts, Perl programming, database connectivity, SSL
- Advanced XML - DTDs, RDIFs, XLI, XSL, SHTML
- Active Server Pages (ASP) - programming ASP, database connectivity, SSL
- Introduction to PHP and JSP
- E-Commerce - definition, history and fundamental concepts.

Textbook

References
Stein, L., How to Set up and Maintain a Web Site, 2nd Edn., Addison-Wesley, 1997.

HIT2153 Software Development 3A
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: HIT1052 • Teaching methods: Lectures, Laboratories, Assessment: Assignments, Examinations.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Science (Mathematics and Computing), Bachelor of Engineering (Robotics and Mechatronics)/Bachelor of Science (Computer Science and Software Engineering), Bachelor of Engineering (Telecommunications and Internet Technologies)/Bachelor of Science (Computer Science and Software Engineering), Bachelor of Information Systems, Bachelor of Information Systems/ Bachelor of Business, Bachelor of Multimedia (Multimedia Software Development), Bachelor of Software Engineering.

Aims & Objectives
- To understand and use the common data structures and algorithms.
- To improve skills in Java programming.

Content
- Time analysis of algorithms.
- Collection classes in general.
- Linked lists, iterators, stacks, queues, trees, graphs, hash tables.
- Searching and sorting algorithms.
- Relevant facilities in the Java Foundation Class Library.

References

HIT3007 Business Computing Applications
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HIT2006 or HIT1004 • Teaching methods: Lectures, Tutorials, Laboratory. • Assessment: Assignments, Examinations.
A subject in the Bachelor of Information Systems and Bachelor of Information Systems/Bachelor of Business.

Aims & Objectives
- To provide students with an understanding of the characteristics and requirements of business information systems applications, including accounting, marketing, manufacturing, financial and human resources computer-based systems.
- To examine the impact of information quality and effective reports and reporting on both the operational and managerial area of an organisation.
- To consider the roles of information and communications technology within enterprise wide and global business contexts, especially electronic commerce.
- To identify the essential elements of Decision Support Systems especially on Enterprise Information System and Executive Information System.
- To design, implement and manipulate files using electronic spreadsheet, DBMS and MIS software.
- To facilitate mastery of an Executive Information System (Model)/ MIS package.

Content
- Relationship and distinction between different types of application systems within the business environment, with major emphasis on computer-based information systems.
- Typical business systems, including project management, spreadsheet, DBMS, EIS and MIS software.
- Strategies for the management of technology within a business environment.

References
Various books typically titled 'Management Information Systems' on the library shelves by authors such as Kenneth Laudon, Jane Laudon and James O'Brien.

HIT3010 Component Based Development
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HIT2010 • Teaching methods: Lectures, Tutorials, Laboratories. • Assessment: Assignments, Examination.
A subject in the Bachelor of Information Systems/Bachelor of Business.

Aims & Objectives
- To develop an understanding of the component-based approach to information systems development.
- To develop knowledge of relevant software engineering principles and practices.
- To provide students with the opportunity to create and use some simple components.

Content
- Definitions of components and component-based development, technical and economic perspectives.
- Software engineering principles and practices for CBD, relationship to other software development approaches including structured methods and object-orientation.
- Component environments, standards and libraries, use of a component library.
- Methods and tools for component-based development; component assembly, component modelling, component design, component implementation and deployment.

References
HIT3017 Database 2
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: HIT2016 and HIT1051 or HIT1009 • Teaching methods: Lecture (2 Hours per week), Laboratory/ Tutorial (2 Hours per week). • Assessment: Assignments; Examination.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Science (Computing), Bachelor of Information Systems, Bachelor of Information Systems/Bachelor of Business, Bachelor of Information Technology, Bachelor of Software Engineering.
Aims & Objectives
To equip students with knowledge and skills to develop simple online Database Applications. A Database Application requires the services of a Database Management systems (DBMS) such as transaction management, recovery and concurrency. A Database Application has two parts: the application and the database, often implemented on a client and server respectively. The client side controls dialogue with the user; the server side manages the database. Static design of a database was studied in Database 1; this subject deals with dynamic design using Triggers.
Content
- DBMS terminology and concepts.
- Transaction management, concurrency and recovery.
- Building On-line Transaction systems using forms and triggers.
References

HIT3018 Database 3
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT3017 • Teaching methods: Lecture (2 Hours per Week), Laboratory/tutorial (1 Hour per Week). • Assessment: Assignments; Examination.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Science (Computing), Bachelor of Software Engineering.
Aims & Objectives
To build upon the concepts and skills gained in Database 2 by examining database design, implementation and performance issues in both local and distributed client-server environment.
Content
- Programming using SQL cursors.
- Physical design issues.
- The use of database and transaction analysis and optimiser plan information to check/improve performance.
- The effective use of views to achieve data independence.
- Design and implementation of distributed systems.
- Object-oriented and Object-relational systems.
References

HIT3021 Distributed Object Technology
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Requires approval of Program Manager • Teaching methods: Lectures, Tutorials • Assessment: Assignments; Examinations.
A subject in the Bachelor of Science (Computer Science and Software Engineering).
Aims & Objectives
To provide a theoretical and practical background for the development of distributed software using an object-oriented approach.
Content
- CORBA.
- DCOM.
- Comparison and bridges between the two technologies.
References

HIT3022 Emerging Information Technologies
12.5 Credit Points • 1 Semester • 72 Hours • Hawthorn • Prerequisite: HIT2016 and HIT1051 or HIT1009 • Teaching methods: Lecture (2 Hours per week), Laboratory/Tutorial (2 Hours per week). • Assessment: Assignments; Examination.
A subject in the Bachelor of Information Technology.
Aims & Objectives
To introduce students to selected technologies deemed to be of emerging significance. Specific aims vary according to the selected technologies being investigated.
Content
A detailed treatment of selected technologies determined on a year-to-year basis, as a result of consultation with sponsor organisations. Topics that have been covered in the past have included object-oriented analysis, design and programming, and multimedia systems. Object oriented analysis and design is no longer an emerging technology, and has been incorporated into the core curriculum. The current area of interest is Advanced Web Development.
References
The core references for this subject will be journal articles rather than textbooks.

HIT3034 Information Systems Project
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT3017 and HIT2010 or HIT1052 and HIT2049 • Teaching methods: Seminars, supervised reading, and individual consultation as required. • Assessment: Oral Presentation, Project Report.
A subject in the Bachelor of Information Systems and Bachelor of Information Systems/Bachelor of Business.
Aims & Objectives
- To provide students with the opportunity to work in a formal project team environment in the areas of development and implementation of an information system, using a variety of software engineering and development tools.
- To increase the depth and breadth of the students' understanding of practical computing and reinforce the theory learned in other subjects.
Content
Students will employ the skills learned in other subjects, such as:
- Software engineering techniques.
- Project control.
- Standards development.
- Database implementation.
- Programming.
- Unit and system testing.
- Software package implementation design.
- Risk analysis.
References

HIT3036 Information Technology Strategies
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Any two HIT2xxx subjects • Teaching methods: Lecture (2 Hours per week), Tutorials (2 Hours per week). The teaching and assessment methods seek to develop self-directed learning (the ability to study and learn independently) and reflective thinking skills (a critical approach to literature on the subject). • Assessment: Individual Report. Several milestones towards production of the final report are also assessed.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Science (Computing), Bachelor of Information Systems, Bachelor of Information Systems/Bachelor of Business, Bachelor of Information Technology, Bachelor of Multimedia (Multimedia Software Development), Bachelor of Software Engineering.
Aims & Objectives
- To provide students with an understanding of the information systems (IS) requirements of business and other organisations and the methods by which such systems may be obtained and managed. The emphasis is on enhancing the ability of students to critically evaluate the competing claims of the proponents of the
products, services and methods and the explanatory theories that support these claims.

- To identify a range of IS development and acquisition methods (ISDMs) and place these in an historical context.
- Discuss the main methods currently in use, and the often contentious technical, managerial and social issues associated with them.
- Evaluate the methods that may be appropriate in particular organisational and social contexts.
- To justify the need for careful analysis, risk assessment and control procedures suitable for different system development approaches.
- To discuss current trends and critically assess competing claims about future directions in information systems strategies.

**Content**
- Information System Development - an Organisational Context.
- Information Systems - Establishing the framework.
- Evolution of information systems in organisations.
- The Information Technology (IT) Perspective.
- Life cycle variations and managing IT development.
- Newer technologies.
- Business Perspectives.
- End-User developed applications.
- Software risk and software quality.
- Business, management, and information systems in organisations.
- Information and systems as a resource.
- Ethics.
- Building a responsive IT infrastructure and ethics issues.
- Community concerns and privacy.

**References**

Students will be expected to utilise a wide range of material available (eg books, journal papers, articles). A range of suitable references will be placed on counter reserve. A list of these references will be provided separately.

The following texts provide a good introduction:

**HIT3038 Knowledge-Based Systems**

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HIT3037 and C Knowledge. Available to final year students only. Teaching methods: Lecture (2 Hours per week), Laboratory (2 Hours per week) • Assessment: Assignments, Examinations.

A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Information Systems, Bachelor of Information Systems/Bachelor of Business and Bachelor of Software Engineering.

**Aims & Objectives**
- To develop in students an understanding of the nature and uses of Expert Systems in business and industry.
- To explore related fields including Artificial Neural Networks, Natural Language Processing and Case Based Reasoning.
- To provide students with the opportunity to design and build an Expert System prototype.

**Content**
- Basic concepts of Artificial Intelligence, Knowledge Based Systems and Expert Systems.
- What expert systems are, how they are developed and who is using them.
- Principles of rule based systems, induction, forward and backward chaining.
- Handling of uncertainty.
- Basic principles of knowledge acquisition.
- Various forms of knowledge representation.
- Introduction to artificial neural networks, natural language processing and case based reasoning.

**References**

**HIT3039 Local Area Networks**

12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: HIT2020 or HIT3038 and C Knowledge. Available to final year students only. Teaching methods: Lecture (2 Hours per week), Laboratory (2 Hours per week). Assessment: Assignments, Examinations.

A subject in the Bachelor of Software Engineering and Bachelor of Science (Software Engineering).

**Aims & Objectives**
Local area networks are fundamental components of Open Systems, providing the framework within which all components must participate. This subject provides the background knowledge and concepts used in all other areas of the course. By the end of this subject, students should be able to:
- Appreciate the relative merits and weaknesses of common network topologies and media.
- Explain the operation of common network protocols.
- Understand how repeating, bridging and routing work and relate to the OSI (Open Systems Interconnection) Model.
- Understand configuration and management issues.

**Content**
- Overview and functionality of Media Access Control (MAC) and Logical Link Control (LLC) sublayers.
- Ethernet, token ring, token bus networks.
- High speed and bridged local area networks.
- Gigabit Ethernet, ATM LANs.
- LAN switching.
- Overview of Network Operating Systems and associated application layer protocols: UNIX, NetWare and Windows NT.

**References**
HIT3041  Advanced Web Development

12.5 Credit Points  •  1 Semester  •  36 Hours  •  Hawthorn  •  Prerequisite: HIT1052  •
Exclusions: HIT1081 and HIT2092  •  Teaching methods: Lectures (2 Hours per week),
Laboratory (1 Hour per week)  •  Assessment: Assignments, Examination.

A subject in the Bachelor of Science (Computer Science and Software Engineering),
Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Science (Computer
Science & Software Engineering), Bachelor of Software Engineering, Graduate Diploma
of Information Technology (Internet Software Development).

Aims & Objectives

To introduce and review Codes of Ethics and Codes of Conduct governing the
development of advanced World Wide Web systems.

Content

- Introduction to the World Wide Web - definition, history and fundamental
  concepts.
- HTML - document structure, images, links, image maps, tables, frames.
- Protocols and server technology - HTTP, MIME, URLs.
- JavaScript - syntax, DOM, forms processing, common tasks.
- CSS - principles of navigation, usability, style guides, standards.
- DHTML - dynamic techniques, data-aware documents.
- Web design and usability - principles of navigation, usability, style guides,
  standards.
- CGI programming - forms, elementaary CGI concepts, CGI programming.
- XML - syntax, DTDs, RDFs, XSL.
- Active Server Pages (ASP) - fundamental purpose and operation.

Textbook

Rieding, E., Vodnik, S., HTML Illustrated Complete, 2nd Edn, ITP, 2001

References


HIT3044  Professional Issues in Information Technology

12.5 Credit Points  •  1 Semester  •  24 Hours  •  Hawthorn  •  Prerequisite: HIT1053 or
HIT2153 or HIT3010  •  Teaching methods: Lecture (2 Hours per Week). There is also
private assignment work that builds an understanding of issues through experiential
learning  •  Assessment: Assignments.

A subject in the Bachelor of Science (Computer Science and Software Engineering),
Bachelor of Science (Information Technology) and Bachelor of Software Engineering.

Aims & Objectives

To provide students with the knowledge base required to manage their own
personal software process and understand methods which are of benefit to them.

Content

The course closely follows the ‘Personal Software Process’ course developed by Watts
S. Humphrey, Software Engineering Institute, Carnegie Mellon University, USA. It
addresses:
- The baseline personal process (time/defect recording, coding standards, size
  measurement).
- The personal planning process (size estimating, task planning, schedule planning).
- Personal quality management (design reviews, design templates, code reviews).
- Cyclic personal process (cyclic process improvement).

References

Humphrey, W.S., A Discipline for Software Engineering, Addison-Wesley, Reading, MA,
1995.

HIT3047  Real-Time Programming

12.5 Credit Points  •  1 Semester  •  36 Hours  •  Hawthorn  •  Prerequisite: HIT2053 or
HIT2153  •  Teaching methods: Lecture (2 Hours per Week). There is also
private assignment work. There is also
private assignment work that builds an understanding of issues through experiential
learning  •  Assessment: Assignments.

A subject in the Bachelor of Science (Computer Science and Software Engineering),
Bachelor of Science (Computer Science and Software Engineering), Bachelor of
Engineering (Telecommunication and Internet Technologies)/Bachelor of Science
Computer Science & Software Engineering), Bachelor of Information Systems,
Bachelor of Information Systems/Bachelor of Business, Bachelor of Multimedia
(Multimedia Software Development) and Bachelor of Software Engineering.

Aims & Objectives

- To study the design and implementation of real-time software systems using a
  high-level language.
- To develop control software for a hardware system with hard deadlines.

Content

- Characteristics of real-time systems.
- Clocks and deadlines.
- Process interaction mechanisms: semaphores, signals, rendezvous.
- Protected objects and buffers.
- Low-level programming, interrupt handling.
- Priority and pre-emptive scheduling.
- Introduction to a real-time design methodology.

References

Burns, A., Wellings, A., Real-Time Systems and their Programming Languages, 3rd Edn.,

**HIT3050  Evolutionary and Neural Computing**

12.5 Credit Points  • 1 Semester  • 36 Hours  • Hawthorn  • Prerequisite: HIT1052 and HIT3021  • Teaching methods: Lecture (2 Hours per Week), Laboratory (1 Hour per Week)  • Assessment: Assignments, Examinations, Practice Sessions.
A subject in the Bachelor of Science (Computing), Bachelor of Information Systems, Bachelor of Information Systems/Bachelor of Business, Bachelor of Software Engineering.

**Aims & Objectives**
To introduce and investigate non-deterministic computational methods and their application to complex problem domains.

**Content**
- Introduction.
- Methods of inference, Deductive logic, Induction.
- Approximate reasoning.
- Symbolic and sub-symbolic processing.
- Neurocomputing.
- An introduction to parallel processing in networks.
- Perceptrons.
- Multi-layer networks (back-propagation).
- The associative memory problem (the Hopfield model).
- Unsupervised competitive learning.
- Other neural networks architectures.
- Evolutionary computation.
- Foundations of evolutionary computation.
- Generic algorithms.
- Genetic programming.
- Applications.
- Fuzzy systems.
- Fuzzy sets, logic: the basics of fuzzy systems.
- Fuzzy systems applications.
- Hybrid Systems.

**References**

**HIT3054  C++ for Java Programmers**

12.5 Credit Points  • 1 Semester  • 40 Hours  • Hawthorn  • Prerequisite: HIT1052  • Prerequisites: HIT2053, HIT2054, HIT2072  • Teaching methods: Lecture (2 Hours per session), Laboratory (2 Hours per session)  • Assessment: Assignments, Examination.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Science (Information Technology), Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Software Engineering.

**Aims & Objectives**
- To compare and contrast the features of the C++ programming language with those of Java.
- To reinforce understanding of Java features by earning their equivalent in the 'parent' C++ language.
- To introduce the capabilities of C++ as a hybrid, procedural and object oriented language.
- To explore in depth the facilities offered by C++ for object-oriented programming.
- To explore the freedom, efficiency and flexibility C++ offers programmers.
- To emphasise the defensive programming style required by the C/C++ programming language.
- To explore the benefits and drawbacks of C++ and Java integration.

**Content**
- C++ as a hybrid programming language - structure of C++ programs, compilation process.
- Data types - control structures, functions, scope.
- Pointers, references.
- C/C++ strings, namespace, C++ use of 'const'.
- C++ Classes and data abstraction - separating interface and implementation.
- Stream Input/Output (standard I/O, device and file I/O).
- Inheritance, abstract classes, multiple inheritance.
- Operator overloading, friend function and friend classes, static class members.
- Polymorphism and late binding, the Visible.
- C++ type conversion, RTTI.
- Exception handling.
- Function templates and class templates, the STL.
- Integrating C++ and Java, JNI, distributed objects.

**References**
Budd, T., C++ for Java Programmers, Addison Wesley, 1999.
<http://www.BruceEckel.com/ThinkinginCPP2e.html#TheElectronicBook>

**HIT3056  Software Engineering 1**

12.5 Credit Points  • 1 Semester  • 36 Hours  • Hawthorn  • Prerequisite: HIT1052 or HIT2049  • Teaching methods: Lecture (2 Hours per week), Tutorial/Laboratory (1 Hour per week)  • Assessment: Assignments, Examinations.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Information Systems/Bachelor of Business, Bachelor of Information Systems, Bachelor of Information Technology, Bachelor of Software Engineering.

**Aims & Objectives**
This subject builds on the work done in HIT1031 on small software development projects, introducing some of the problems of large software development projects. The objectives are:
- To introduce the concepts and techniques required to direct and control the development of medium to large-scale software, including project management, quality assurance, software process improvement and software metrics.
- To broaden student's understanding of possible software development paradigms.
- To explore some of the problems of software maintenance.

**Content**
- Software Project Management, including costing, scheduling and risk management.
- Introduction to Software Quality Assurance.
- Introduction to Software Process Improvement.
- Introduction to Software Metrics.
- Maintenance.

**Textbook**

**HIT3057  Software Testing and Reliability**

12.5 Credit Points  • 1 Semester  • 36 Hours  • Hawthorn  • Prerequisite: HIT3056  • Teaching methods: Lecture (2 Hours per week), Tutorial/Workshop (1 Hour per week)  • Assessment: Assignments, Examinations.
A subject in the Bachelor of Software Engineering.

**Aims & Objectives**
To provide students with the concepts and methodologies of software testing and reliability.
Content
Selection of test cases.
- Program instrumentation.
- Data flow analysis.
- Domain testing strategy.
- Mutation analysis.
- Basics of reliability theory.
- Reliability modelling.

References

HIT3058 Software Engineering Project
12.5 Credit Points per Semester • 2 Semesters • 48 Hours over 2 Semesters • Hawthorn • Prerequisite: HIT2153 or HIT3056 • Teaching methods: Lectures (2 Hours per week), Regular contact with supervisor and project team sessions (2 Hours per week) • Assessment: Product developed, Documentation produced, Project Management.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Engineering (Robotics & Mechatronics)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science & Software Engineering).

Aims & Objectives
- To develop a software system in a medium size team (about 6 members).
- To apply the range of knowledge and skills gained throughout the course, especially in Software Engineering, Programming, Data Communications, Database and Multi-User/Multi-Platform Technologies.

Content
- Initiation, specification, design, testing and deployment of a large software system development, requiring students to function as members of a sizable team (where possible these projects will be for industry clients).
- Theoretical material will encompass the tools that will be required for the software development.

References

HIT3061 Software Team Project
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT1052 and HIT2016 • Teaching methods: Lectures, group meetings and consultation with project supervisor • Assessment: Assignments.
A subject in the Bachelor of Science (Computing).

Aims & Objectives
- To teach students how to apply software engineering principles to the development and successful implementation of a major piece of software which satisfies user needs.
- To give students an understanding of how to work effectively and efficiently in a team.

Content
Students work as a team (typically 4 - 6 individuals) to develop a software product for a nominated client. Where possible, clients are external to the University. Each group is supervised closely by a member of staff who acts as a project manager. Three milestones must be satisfied. Teams are required to produce a formal Management Plan and Software Requirements document that are in accordance with currently accepted software engineering principles and practice. These requirements involve analysis of project requirements, project design and development. The final milestone involves a formal oral presentation of the completed software at which the user is present.

References


HIT3063 UNIX Systems Programming
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: HIT2014 and HIT3052 or HIT3054 (Requires approval of Program Manager). • Corequisites: Nil
Prerequisites: HIT2082 • Teaching methods: Lecture, Laboratory (2 Hours per Week each).
- Assessment: Assignments, Examinations.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Science (Computing), Bachelor of Science (Information Technology), Bachelor of Software Engineering.

Aims & Objectives
- To study the advanced use of the UNIX system by a consideration of a selection of the system calls.
- To study the development of network-aware software.

Content
- Low level I/O.
- File system access and manipulation; time under UNIX.
- Process control.
- Accessing user information.
- Signals and interrupts.
- Interprocess communication and networking.
- Remote procedure calls (RPC) and distributed computing environment (DCE) services.
- I/O to terminals and device control.

References

HIT3064 Wide Area Networks
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: HIT3059 (Requires approval of Program Manager). • Teaching methods: Lecture (2 Hours per Week), Laboratory (2 Hours per Week) • Assessment: Assignments, Examinations.
A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Multimedia (Multimedia Software Development), Bachelor of Software Engineering.

Aims & Objectives
To provide students with an understanding of the operational principles of wide area networks and Internet protocols.

Content
- A Review of Metropolitan Area Network (MAN) and Wide Area Network (WAN) technologies.
- Internetworking concept and architectural model.
- Connectionless datagram delivery.
- Routing of datagrams.
- Error and control messages (ICMP).
- Subnet and supernet address extensions.
- User Datagram Protocol (UDP).
- Reliable stream transport service (TCP).
- Routing.
- Cores, peers, and algorithms (GDP).
- Autonomous systems (EGP).
- Routing in an autonomous system (RIP, OSPF, HELLO).
- Internet multicasting (IGMP).
- The Domain Name System (DNS).
• Internet security and firewall design.
• The future of TCP/IP and the Internet (IPv6, Internet-II).

References

HIT3065 Windows Programming
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: HIT2054 or HIT2056 or HIT3074
Requirements: Approval of Program Manager • Teaching methods: Lectures, Laboratory (2 hrs per week each). • Assessment: Assignments, Examinations.

A subject in the Bachelor of Software Engineering.

Aims & Objectives
• To study the Windows interface programming paradigm.
• To provide a theoretical and practical background for the development of software under the Windows operating system.
• To have a solid foundation in the WIN32 API.

Content
• Windows interface and architecture.
• The WIN32 API.
• The Microsoft Foundation Class Library.
• Documents and Views.
• Dialog Boxes, Menus, Toolbars.
• Graphical Operations.
• Enhanced Views.
• Dynamic Link Libraries.

References

HIT3072 C++ for Programmers
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: HIT1052 or HIT2054 or HIT2056 or HIT3074
Preclusions: HIT1205 or HIT1206 or HIT1207 or HIT2056 or HIT3074
Teaching methods: Lectures (2 hrs per session), Laboratory (1 hr per session) • Assessment: Assignments, Examination.

Previous Subject Title: Introduction to C++, A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Science (Computing), Bachelor of Science (Information Technology), Bachelor of Science (Mathematics and Computer Science), Bachelor of Engineering (Robotics)/Bachelor of Science (Computer Science and Software Engineering), Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science and Software Engineering), Bachelor of Information Systems, Bachelor of Information Systems/Bachelor of Business, Bachelor of Software Engineering.

Aims & Objectives
• To introduce the fundamentals of C++ programming.
• To present the defensive programming style required by the C/C++ programming language.
• To explore the facilities offered by C++ for object-oriented programming.

Content
• Introduction to C++ programming as a hybrid programming language - structure of C++ programs, compilation process.
• Data types - control structures, functions, scoping.
• Composite data types, pointers, references.
• C strings, C++ strings, namespace, uses of ‘const’.
• Arrays and data abstraction - separating interface and implementation.
• Inheritance, abstract classes, multiple inheritance.
• Friend functions and friend classes, operator overloading.
• Static class members.

References

HIT3081 E-Commerce: A Business Perspective
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT2054 or HIT2056 or HIT3074 or equivalent • Teaching methods: Lecture (2 hrs per week), Laboratory (1 hr per week) • Assessment: Assignments, Examination.

A subject in the Bachelor of Information Systems and Bachelor of Information Systems/Bachelor of Business.

Aims & Objectives
• To understand the stages of the software life cycle.
• To learn to develop engineering software in a disciplined way.
• To participate as a successful member of a project team in software development.
• To improve skills in C programming.

Content
• The software life cycle.
• Software specification.
• Software modularity.
• Advanced data structures.
• Random-access files.
• Introduction to C++.

References
• Future Trends of eCommerce.

References

**HIT3085 E-Commerce Systems**

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HIT1025 • Corequisites: Nil. Preclusion: HIT2053 • Teaching methods: Lectures, Tutorials • Assessment: Assignments, Examinations.

A subject in the Bachelor of Information Systems.

**Aims & Objectives**
To provide the student with an insight into the basic elements of data communication and relate this to their wider use in information systems and electronic commerce. It also examines the growing pressure to provide an integrated approach to all information systems to provide a flexible, simple and effective method of information management utilising electronic commerce.

**Content**
- Role of Information Systems, electronic commerce and data communications in contemporary business practice.
- Business applications of the Internet.
- Principles of data communications.
- Examination of the current data communication standards.
- Local area networks.
- Internet working with an emphasis on devices and technology.
- Wide area networks.
- Client-server architecture.
- Web based Electronic Commerce systems and applications.
- Current Electronic Commerce informations systems planning and development.
- Management issues.
- Current trends.

**References**
To be advised

**HIT3087 Advanced Java**

12.5 Credit Points • 1 Semester • 26 Hours • Hawthorn • Prerequisite: HIT1025 • Corequisites: Nil. Preclusion: HIT2053 • Teaching methods: Lectures (2 Hours per Week), Laboratory (1 Hour per Week) • Assessment: Assignments, Examinations.

A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Science (Computing), Bachelor of Science (Information Technology), Bachelor of Information Systems, Bachelor of Information Systems/Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Information Systems, Bachelor of Information Systems/Bachelor of Business, Bachelor of Engineering (Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Software Engineering.

**Aims & Objectives**
To develop skills in advanced Java programming, including the use of Java Foundation Classes and creating Java Beans.

**Content**
- The Swing API.
- Specialised dialogs: JColor Chooser, J File Chooser, J Option Pane, etc.
- Model based components: JTree, JTable, etc.
- Image display.
- Threads.
- Serialisation.
- Java Beans.
- Introduction to RMI.

**HIT3102 Intelligent Agents**

12.5 Credit Points • 1 Semester • 26 Hours • Hawthorn • Prerequisite: HIT1025 • Teaching methods: Lecture (2 Hours per Week), Tutorial (1 Hour per Week) • Assessment: Assignments, Examinations.

A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Science (Computing), Bachelor of Information Systems, Bachelor of Information Systems/Telecommunications & Internet Technologies)/Bachelor of Science (Computer Science & Software Engineering), Bachelor of Software Engineering.

**Aims & Objectives**
- To introduce the basic concepts and tools of symbol-based Artificial Intelligence and their application in Expert Systems.
- To contrast the symbol-based with the more recently emergent non-symbolic AI paradigm.
- To study the difficulties involved in encoding knowledge, even in restricted domains, in such a fashion that ‘intelligent behaviour’ can be elicited.

**Content**
- Intelligent agents.
- Problem solving and search.
- Knowledge representation.
- Expert systems as applied AI.
- Evolutionary systems.
- Artificial neural networks.
- Vision.
- Philosophy of Artificial Intelligence.

**References**

**HIT3142 Object Oriented Modelling**

12.5 Credit Points • 1 Semester • 24 Hours • Hawthorn • Prerequisite: HIT1025 or HIT3072 require approval of Program Manager • Teaching methods: Lecture/Tutorial (2 hrs per week) • Assessment: Assignments, Examinations.

A subject in the Bachelor of Science (Computer Science and Software Engineering), Bachelor of Science (Computing), Bachelor of Science (Information Technology), Bachelor of Software Engineering.

**Aims & Objectives**
- Explain and illustrate the fundamental concepts of object orientation.
- List and describe the features and models available in the UML (Unified Modelling Language).
- Read, verify, and validate a given specification presented in UML.
- Discuss what qualities contribute to a good UML specification.
- Given a system requirements description, produce a specification and implementation using UML.
- Produce a rationale of the various design choices made in producing a system specification in UML.

**Content**
- Introduction to Object Oriented concepts.
- Overview of the UML modelling language.
- Class diagrams.
- Use cases.
- Interaction diagrams.
- State diagrams.
- Modelling heuristics.

**References**
HIT3157 Large Scale System Design  
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HIT3206 • Teaching methods: Lectures (2 Hours per Week), Tutorials (1 Hour per Week). • Assessment: Examination.

A subject in the Bachelor of Software Engineering.

Aims & Objectives
To facilitate an in-depth study by students of current approaches and techniques for large scale system design, with a special focus on requirements and software architecture.

Content
- Requirements specifications.
- Validation of requirements.
- Requirements management.
- History and significance of architectures.
- Architectural styles and patterns.
- Architectures and frameworks.
- Architectural design.

References
Robertson, S., Robertson, J., Mastering the Requirements Process, Addison-Wesley, 1999.

HIT4058 Software Engineering Project A  
25 Credit Points • 2 Semesters • 5 Hours per Week for two semesters • Hawthorn • Prerequisite: HIT2024 and HIT2056 • Corequisites: Nil • Teaching methods: Lectures, Project Supervision • Assessment: Projects.

A subject in the Bachelor of Software Engineering.

Aims & Objectives
To engineer a software system in a large team.
- To apply a range of knowledge and skills gained throughout the course, especially in Software Engineering, Programming, Data Communications, Database and Multi-User/Multi-Platform Technologies.

Content
- Initiation, specification, design, implementation, testing and initial maintenance of a large software system development, requiring students to function as members of a sizeable team (where possible these projects will be relevant to identifiable industry needs).
- Theoretical material will encompass the tools that will be required for the software development.

References
IEEE Software Engineering Standards.

HIT4069 Research Paper  
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Supervised reading, field work and individual consultation as required. • Assessment: Class presentations, Report.

A subject in the Bachelor of Software Engineering.
• To give students basic programming knowledge that can be utilised in a number of different programming environments and languages and advanced computing subjects.

• To give students the skills to be able to create and maintain small business software applications using an event-driven object-based programming environment.

• To provide students with additional non-examinable information that may prove useful for those students who want to create applications outside of this subject.

Content

• Theory of information systems, as used by business and organisations.

• An overview of modern business computing: management needs and information technology solutions.

• Introduction to the basic concepts involved in computer hardware, computer software, data communications.

• Introduction to concepts and skills involved in the use of spreadsheets, databases and the Internet.

• Introduction to object-oriented programming approach including sequence, selection, iteration, procedures, functions, repetition and arrays.

References


Zak, Diane, Programming with Visual Basic 6 (working model 6.0 included), Nelson ITP, Australia, 1999.


Sim(Net) for Microsoft Office 2000 - Student CD Rom, Triad Interactive.

HIT5031 Introduction to Software Engineering

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT5051

Corequisites: HIT5052 • Teaching methods: Lectures (2 Hours per Week), Tutorials (1 Hour per Week) • Assessment: Assignments, Examinations.

A subject in the Graduate Diploma in Information Technology (Internet Software Development).

Aims & Objectives

• To introduce the basic problems encountered in the development of software in a small team environment.

• To examine some of the current techniques and tools which are used by industry to address the above problems.

• To allow students to experience the preparation of systems development documentation, working as members of small (2-4 person) teams using an object-oriented development perspective.

Content

• What is software engineering?

• The software development life cycle.

• Techniques for requirements elicitation.

• Software design as an incremental, iterative process.

• Software defect management, including defect identification and fault detection.

• Software validation and verification.

References


Aims & Objectives
- To introduce computing concepts and skills as part of the core IT skills required for the course.
- To develop an understanding of communication protocols and computer networks.

Content
- Fundamentals of computing.
- Operating systems.
- Common desktop applications.
- Client/Server
- LAN/WAN.
- Internet.
- Database.
- Information integrity & availability.
- Security.
- Programming concepts.

References
- Beyda, W., Basic Data Communications, Prentice Hall.
- Black, U., Computer Networks and Distributed Processing, 3rd Edn., Addison-Wesley.

HIT5074 Database Concepts and Applications
12.5 Credit Points • 2 Weeks • 32 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures (18 Hours), Laboratory/Tutorials (14 Hours) • Assessment: Assignments, Examinations.
A subject in the Master of Engineering in Industrial Information Technology.

Aims & Objectives
- To introduce students to database and programming concepts in the context of information systems within an enterprise.
- To provide a solid theoretical foundation to the fundamentals of database design and database systems development.

Content
- Overview of Financial, HR, MIS, CAD, etc.
- The Relational Data Model.
- Structured Query Language (SQL).
- Functional Dependency Diagrams.
- Client server database technologies.
- Normalisation of Data.
- Data & OO models.
- DBMS terminology and concepts.
- Data Integrity.

References

HIT5075 Practical IT Project Management
12.5 Credit Points • 2 Weeks • 32 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Case studies • Assessment: Assignments.
A subject in the Master of Engineering in Industrial Information Technology.

Aims & Objectives
- Introduction to project management with a focus on developing practical skills as applied to a wide range of information technology projects.
- To provide an overview on a range of project management tools and methodologies.

Content
- Project management techniques.
- Project phases, life cycles, quality issues.
- Project team structure, roles and responsibilities.
- Risk assessment.
- Project monitoring and control.
- Configuration management.
- Project management tools.
- Organisational influences, human resources, procurement.
- Working with subcontractors and consultants.

References
- McLeod, G., Smith, D., Managing Information Technology Projects, Course Technology, 1996.

HIT5076 Management of Information Technology
12.5 Credit Points • 2 Weeks • 32 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures • Assessment: Assignments.
A subject in the Master of Engineering in Industrial Information Technology.

Aims & Objectives
- To focus on the information technology related management issues in strategic planning and operational activities within an enterprise.
- To explore implications of trends and structural changes in companies and organisations with new technologies.

Content
- IT and Strategic planning.
- Strategic management of IT.
- IS/IT planning.
- Technological trends in computing and telecommunications.
- Developing and managing customer expectations.
- Establishing effective customer focus support.
- Controlling IT resources.

References

HIT5078 Object Oriented Design and Programming
12.5 Credit Points • 2 Weeks • 35 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures (15 Hours), Laboratory/Tutorials (20 Hours) • Assessment: Assignments, Examinations.
A subject in the Master of Engineering in Industrial Information Technology.

Aims & Objectives
- To introduce basic concepts of object-oriented analysis and design.
- To introduce object-oriented programming using Java.
- To study the main features of the software development process in an object-oriented framework.

Content
- The object-oriented world view.
- Introduction to object-modelling.
- Introduction to implementation of objects and classes.
- Contracts: pre and post conditions and assertions.
- Control structures.
- Input-output.
- Introduction to class libraries.
- Use of an OO notation.

References
- Allen, R.K., Bluff, K., Oppenheim, A.B., Object-Oriented Software Development 1, 2nd Edn., Swinburne, 1998 (contains lecture notes and laboratory material).

**HIT5088 Customising Enterprise Systems**

12.5 Credit Points  1 Semester  36 Hours  Hawthorn  Prerequisite: Nil  Teaching methods: Lectures (12 hours), Laboratory/Tutorials (20 Hours).  Assessment: Assignments.

A subject in the Master of Engineering in Industrial Information Technology.

**Aims & Objectives**
- To allow students to understand and develop skills in programming and customising an enterprise system.
- To investigate issues of multi-vendor environment.

**Content**
- Programming and customising using of the SAP/JDE/Visual ERP system within manufacturing enterprise.
- Investigate issues related to multi-product environments.
- Issues of legacy systems and migration.

**References**
Compiled lecture notes and reference manuals supplied by system vendors.

**HIT5091 Web Development**

12.5 Credit Points  1 Semester  3 Hours per Week  Hawthorn  Prerequisite: Nil  Corequisites: HIT5051 or HIT5012  Teaching methods: Lecture (2 Hours per Week), Laboratory (1 Hour per Week).  Assessment: Assignments, Examinations.

A subject in the Graduate Diploma in Information Technology (Internet Software Development).

**Aims & Objectives**
To introduce the technology of the Internet and World Wide Web and to develop an understanding of the technologies and techniques associated with programming for the World Wide Web.

**Content**
- Introduction to the World Wide Web - definition, history and fundamental concepts.
- HTML - document structure, images, links, maps, tables, frames, forms.
- Protocols and server technology - HTTP, TCP/IP, MIME, URL, CGI, server technology.
- JavaScript - syntax, DOM, forms processing, common tasks.
- Style Sheets - fundamentals, CSS formatting, CSS positioning, standards.
- DHTML - dynamic techniques, proprietary techniques, data-aware documents.
- Web design and usability - principles of navigation, usability, style guides, standards.
- Introduction to XML - syntax, DTDs, XSL, XHTML.
- Multimedia - audio, video, animation, multimedia server and protocol technology.
- Web development tools - editors, site management tools.

**Textbook**

**References**

**HIT6006 Business Computing**

12.5 Credit Points  1 Semester  36 Hours  Hawthorn  Prerequisite: Nil  Corequisites: HIT5012  Teaching methods: Lecture, Tutorial, Laboratory (1 hr per Week each).  Assessment: Assignments, Examinations.

A subject in the Graduate Diploma in Information Technology (Internet Software Development) and Graduate Diploma in Information Technology (Information Systems Applications).

**Aims & Objectives**
- To develop students' understanding of how Information Technology is used to solve business problems.
- To understand how the different types of information systems are used within an organisation.
- To see how information technology may be used for competitive advantage within an organisation.
- To extend students’ problem solving skills with user tools software, particularly Excel.

**Content**
- Electronic Commerce.
- Information Systems, with an emphasis on decision support systems.
- Problem solving.
- Systems development with an emphasis on 'end user' computing.
- The Human Computer interface.
- Business process reengineering and workflow.
- Advanced Excel.

**References**

A detailed reading guide will be issued for each topic and will include articles from industry journals and newspapers.

**HIT6010 Business Programming 2**

12.5 Credit Points  1 Semester  36 Hours  Hawthorn  Prerequisite: HIT5012  Teaching methods: Lecture (1 Hour), Tutorial/Laboratory (2 Hours per Week).  Assessment: Assignments, Examinations, Online Tests.

A subject in the Graduate Diploma in Information Technology (Information Systems Development).

**Aims & Objectives**
- To build on the programming skills and concepts learned in Business Programming 1.
- To give students an understanding of sound software engineering principles through programming in structured language within an event driven environment (currently Visual Basic).

**Content**
Topics covered include:
- Program structure.
- Data structure.
- File 10 (Input/Output).
- Data validation.
- Multiple dimension arrays.
- Subprocedures and functions.
- Modules and multiple forms.
- Reporting.
- Database links and manipulation.
- User defined data types and classes.
- Active-X controls.

**References**

CDBOL course notes.

**HIT6016 Database 1**

12.5 Credit Points  1 Semester  46 Hours  Hawthorn  Prerequisite: Nil  Teaching methods: Lecture (2 hrs per Week), Laboratory/Tutorial (2 hrs per Week).  Assessment: Assignments, Examinations.

A subject in the Graduate Diploma in Information Technology (Information Systems Development), Graduate Diploma in Information Technology (Information Systems Applications), Graduate Diploma in Information Technology (Information Systems Development).
Aims & Objectives
- To provide a solid theoretical foundation to the fundamentals of database design and database systems development.
- To provide sufficient practical exposure to designing and using databases so as to equip students for basic database tasks in industry and government.
- To provide students with experience in the analysis, design and generation of a simple inquiry and update system, using ORACLE.
- To provide an understanding of the problem in its context, the need for adequate documentation of the system and management of this data to ensure that the information produced is relevant, accurate and maintainable. Students will use conceptual data analysis methods to produce a logical data model.

Content
- Information in the Organisation.
- The Relational Data Model.
- Structured Query Language (SQL).
- Functional Dependency Diagrams.
- Entity Relationship Analysis.
- Client server database technologies.
- Normalisation of Data.
- DBMS terminology and concepts.
- Data Integrity.

References

HIT6020 Data Communications
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT6051 • Corequisites: HIT6252 • Teaching methods: Lectures (2 Hours per Week), Laboratory (2 Hours per fortnight) • Assessment: Assignments, Examinations.
A subject in the Graduate Diploma in Information Technology (Information Systems Development).

Aims & Objectives
- To introduce the fundamental concepts and components involved in data communications.
- To develop an understanding of communication protocols and computer networks.

Content
- Historical evolution of computer communications, standards, reference models, protocol architecture and implementation.
- Basic communication theories and terminologies: transmission media, signal types, interface standards.
- Protocol basics: error control methods, flow control, link management, HDLC (high level data link control) protocol.
- Local area networks: topologies and overview of MAC (media access control) methods.
- Overview of network and transport layer issues.
- Network security, encryption, firewalls.
- Electronic Mail.
- Multimedia Communications and protocols.

References

HIT6024 Introduction to Human-Computer Interaction
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture, Laboratory • Assessment: Assignments, Examination.
A subject in the Graduate Diploma in Information Technology (Internet Software Development).

Aims & Objectives
- To introduce the process of user centred system design.
- To introduce the technology of the user interface.
- To introduce the basic underlying theory of interaction.

Content
- What is HCI and why is it needed?
- Human information processing and human error.
- Models of the user and interaction.
- Principles and applications of user-centred design.
- User-centred design methodologies.
- Interface technology, devices, styles and applications.
- Up stream usability engineering, task, user and situation analysis.
- Down stream usability engineering, experimental, interpretive and predictive evaluation.
- Visual and interface design guidelines, standards and metrics.
- Usability issues and the World Wide Web.
- Groupware and Computer Supported Cooperative Work.

References

HIT6049 Systems Analysis & Design
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT6051 • Corequisites: HIT6252 • Teaching methods: Lecture (2 Hours per Week), Tutorial (1 Hour per Week) • Assessment: Assignments, Examinations.
A subject in the Graduate Diploma in Information Technology (Information Systems Development and Graduate Diploma in Information Technology (Information Systems Applications).

Aims & Objectives
- To equip the student with the necessary knowledge, skills, models and techniques to model business problems in both Structured and Object-Oriented systems development paradigms.
- To concentrate on the front-end phases and activities of the Systems Development Life Cycle (SDLC).

Content
- Understanding a problem in its business context.
- Introduction to Project Management tools and techniques relevant for a Systems Analyst.
- SDLC models.
- Approaches to Systems Development.
- Investigating Systems requirements.
- Structured and Object-Oriented modelling techniques to model various perspectives of the system.
- Modelling techniques are: Structured Paradigm: context diagram, data flow diagrams, data element and data flow definitions, process descriptions.
- Object-Oriented Paradigm: OO context diagram, class Analysis diagram, use-case diagram, activity diagram, sequence diagram.

References
**Aims & Objectives**

- To design, implement and manipulate files using electronic spreadsheet, DBMS
- To equip students with knowledge and skills to develop simple online Database Applications. A Database Application requires the services of a Database Management systems (DBMS) such as transaction management, recovery and concurrency. A Database Application has two parts: the application and the database, often implemented on a client and server respectively. The client side controls dialogue with the user; the server side manages the database.

**References**

- Various books typically titled ‘Management Information Systems’ on the library shelves by authors such as Kenneth Laudon, Jane Laudon and James O’Brien.

**Aims & Objectives**

- To provide students with an understanding of the information systems (IS) requirements of business and other organisations and the methods by which such systems may be obtained and managed. The emphasis is on enhancing the ability of students to critically evaluate the competing claims of the proponents of the component-based approach to information systems development.

**Content**

- DBMS terminology and concepts.
- Transaction management, concurrency and recovery.
- Building On-line Transaction systems using forms and triggers.

**References**

products, services and methods and the explanatory theories that support these claims.

- To identify a range of IS development and acquisition methods (ISDMs) and place these in an historical context.
- Discuss the main methods currently in use, and the often contentious technical, managerial and social issues associated with them.
- Evaluate the methods that may be appropriate in particular organisational and social contexts.
- To justify the need for careful analysis, risk assessment and control procedures suitable for different system development approaches.

**Content**

- Information System Development - an Organisational Context.
- Information Systems - Establishing the framework.
- Evolution of information systems in organisations.
- The Information Technology (IT) Perspective.
- Life cycle variations and managing IT development.
- Newer technologies.
- Business Perspectives.
- End-User developed applications.
- Software risk and software quality.
- Business, management, and information systems in organisations.
- Information and systems as a resource.
- Ethics.
- Building a responsive IT infrastructure and ethics issues.
- Community concerns and privacy.

**References**

Students will be expected to utilise a wide range of material available (e.g. books, journal papers, articles). A range of suitable references will be placed on counter reserve. A list of these references will be provided separately.

**HIT7037 Programming in Java**

12.5 Credit Points • 1 Semester • 48 Hours + Hawthorn • Prerequisite: A university level programming subject. Teaching methods: Lectures (2 Hours per Week), Laboratories (2 Hours per Week). Assessment: Assignments, Examination.

A subject in the Master of Information Technology.

**Aims & Objectives**

To master the fundamentals of Java.

**Content**

- Introduction and comparison to C/C++.
- Java language.
- Exceptions, streams and IO.
- Applets and applications.
- Events, event handling and AWT/Swing.
- Graphics, and images/animation/multimedia.

**References**


**HIT7084 E-Commerce: A Business Perspective**

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HLIT6010 Teaching methods: Lecture (2 Hours per Week), Tutorial (1 Hr per Week) • Assessment: Assignments, Examination.

A subject in the Graduate Diploma in Information Technology (Information Systems Development) and Graduate Diploma in Information Technology (Information Systems Applications).

**Aims & Objectives**

This subject covers the key organisational and societal issues relating to electronic commerce by examining the strategic, organisational, business, managerial and technical issues and implications of electronic commerce on the market place and its effects on the nature of business. It aims to raise awareness of the major security, legal and ethical issues affecting consumers and providers.

**Content**

- Introduction to eCommerce Terminology.
- eCommerce Communication Infrastructure.
- Business Models of eCommerce.
- Inter Organisational Systems and EDI.
- EDI and its implications.
- Supply Chain Management and its implications.
- Electronic Service Delivery.
- Internet Commerce and eBusiness.
- Marketing and eCommerce.
- Security Issues of eCommerce.
- Legal, Ethical and Audit issues of eCommerce.
- Future Trends of eCommerce.

**References**


**HIT7085 E-Commerce Systems Infrastructure**

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: NIL Teaching methods: Lectures, Tutorials • Assessment: Assignments, Examinations.

A subject in the Graduate Diploma in Information Technology (Information Systems Development) and Graduate Diploma in Information Technology (Information Systems Applications).

**Aims & Objectives**

To provide the student with an insight into the basic elements of data communication and relates this to their wider use in information systems and electronic commerce. It also examines the growing pressure to provide an integrated approach to all information systems to provide a flexible, simple and effective method of information management using electronic commerce.
Content

- Role of Information Systems, electronic commerce and data communications in contemporary business practice.
- Business applications of the Internet.
- Principles of data communications.
- Examination of the current data communication standards.
- Local area networks.
- Internet working with an emphasis on devices and technology.
- Wide area networks.
- Client-server architecture.
- Web based Electronic Commerce systems and applications.
- Current Electronic Commerce information systems planning and development.
- Management issues.
- Current trends.

References

To be advised

HIT7086 Electronic Commerce Project

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT6081 and HIT6012 • Teaching methods: Lectures, Tutorials • Assessment: Assignments, Examination.

A subject in the Graduate Diploma in Information Technology (Electronic Commerce Systems).

Aims & Objectives

This subject will involve students undertaking an industry-based electronic commerce systems project involving some or all elements of analysis, development and implementation of an electronic commerce system for a client assigned to a group of students. Central to this subject is the student working within a small project team to deliver a project outcome as would be experienced in industry today. The projects may draw on both the technical and business skills of the students within the group to provide a new perspective of their gained knowledge through the unit.

Content

- Project Management concepts.
- Staffing and the role of management.
- Scheduling and controlling projects.
- Project Management software.
- System Walkthroughs.
- Presentation skills.
- International Software Standards (IEEE).
- Australian Standards for Software Quality Management.
- Total Quality Management (TQM).
- Ethics for the computing professional.

References


HIT7087 Advanced Java

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT6052 • Teaching methods: Lectures, Laboratory • Assessment: Assignments, Examinations.

A Graduate Diploma in Information Technology (Internet Software Development).

Aims & Objectives

To develop skills in advanced Java programming including the use of Java Foundation Classes and writing Java Beans.

Content

- The Swing API.
- Specialised dialogues: JColor Choose, J File Chooser, J Option Pane, etc.
- Model based components: JTree, JTable etc.
- Image display.
- Threads.
- Serialization.
- Java Beans.
- Introduction to RMI.

HIT8003 Business Analysis

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Nil (IMS subject only) • Teaching methods: Lectures, Group Work, Tutorials • Assessment: Individual Assignments, Group Work and individual report, Presentations, Class contribution.

A subject in the Master of Information Systems.

Aims & Objectives

- Understand business analysis as the means of identifying, clarifying and defining business information requirements.
- Use business analysis as the basis for constructing, implementing and assessing business information systems.

Content

- History, position, scope and objectives.
- Business analysis and the systems development life cycle (SDLC).
- Tools, techniques and skills for business analysis - communication, recording, assessment.
- Business analysis and the business - change, environments, specialist knowledge and skills.
- Establishing the needs - products, uses, expectations - the effect of methodologies.
- Business analysis as a human activity - the business analysis profile, relationships, project management, sourcing business analysis.

References

Reading list available prior to the beginning of Semester.

HIT8012 Current Issues in Information Systems

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: Completion of 4 subjects from the Masters in Information Systems. • Teaching methods: Lectures, Group Work, Assessment: Assignments, Group Work Presentations, Examination.

A subject in the Master of Information Systems.

Aims & Objectives

- Encourage students to critically appraise state of the art developments and evaluate them for relevance to their own environment.
- Communicate recent systems trends and their impact of business and management.
- Provide an awareness of the anticipated directions within the computer industry.

Content

The content of the subject varies over time to address contemporary issues in the IS field. Recent topics include:
- Intranet and extranet implementation.
- Managing the delivery of IT services by external vendors e.g. ERP, outsourcing.
- Application of intelligent agent technologies.
- Regulation of Internet content.
- Information systems support for knowledge management.
- The use of ICTs in the public sector.
- Mobile computing.

References

Reading list available prior to Semester beginning.

HIT8018 Database 3

12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT7017 • Teaching methods: Lecture (2 Hours per Week), Laboratory (1 Hour per Week) • Assessment: Assignments, Examination.

A subject in the Master of Information Technology.

Aims & Objectives

To build upon the concepts and skills gained in Database 2, by examining database design, implementation and performance issues in both local and distributed client-server environments.
Content

- Programming using embedded SQL cursors.
- Physical design issues.
- The use of database and transaction analysis and optimiser plan information to check/improve performance.
- The effective use of views to achieve data independence.
- Design and implementation of distributed systems.
- Object-oriented and Object-relational systems.

References


HIT8023 Human Computer Interaction

12.5 Credit Points  • 1 Semester  • 40 Hours  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Lecture (2 Hours per Week over 1 Semester plus 2 full day Workshops)  • Assessment: Assignments, Class presentations, Examinations.

Aims & Objectives

- To appreciate the need for, and the role and characteristics of, human-computer interaction.
- To acquire and demonstrate competency in the major methodological phases of user interface design.
- To acquire hands-on experience with usability engineering and usability evaluation, including conducting an evaluation in the SCHIL Usability Laboratory.
- To appreciate the role and nature of behavioural and social science models in HCI.

Content

- Definition and motivation for HCI.
- Usability evaluation, experimental design and the statistical analysis of usability data.
- Task Analysis (HTA, TSA, KAT).
- Interaction models and participatory design.
- Dialogue styles and interaction devices.
- Basic cognitive psychology models (e.g. GOMS, Approximate Theory of Action, TAG).

References


HIT8030 Information Systems Modelling Project

25 Credit Points  • 1 Semester  • 48 Hours  • Hawthorn  • Prerequisite: HIT8016 or equivalent  • Teaching methods: Project work, Lectures, Tutorials  • Assessment: Report.

Aims & Objectives

- To integrate, update and extend the student’s knowledge of modelling notations and methods for analysing and specifying information systems.
- To provide practice in preparing and using models within the context of a simulated information systems redevelopment project.
- To encourage critical appraisal of the models in system development.

Content

- Review of object-orientation and the Unified Modelling Language.
- Software development processes, iterative, risk-driven process.
- Information system, system boundary, actors.
- Specifying system behaviour, use-cases, primary and secondary scenarios.
- Use case diagram; activity diagram, user interface, storyboarding.
- Information system architecture, subsystems, allocating use-cases.
- Documenting the system, reviewing the specification.
- Project planning, estimating, specifying test cases.
- Evaluation, comparison with data-driven processes.

References


HIT8032 Information Systems Management

12.5 Credit Points  • 1 Semester  • 36 Hours  • Hawthorn  • Prerequisite: Nil (IMS subject)  • Teaching methods: Lectures, Group Work  • Assessment: Assignments, Group Work, Presentations, Open Case Study.

Aims & Objectives

- Understand the functions of IS Departments and the responsibilities of IS Managers.
- Understand the relationship between corporate and IS strategic planning.
- Outline and critically evaluate some of the operational issues confronting IS management.
- Understand the challenges awaiting IS managers over the next 2-3 years.

Content

This is an introductory masters-level subject for students with a background in information technology. The content establishes a framework for more detailed study and analysis of specific topics relevant to the management of information systems and technologies. Topics include:

- Role of information systems (IS) and IS management in an organisation.
- Organisation of the IS function.
- Improving the management of information systems.
- IS planning.
- Investing in information systems.
- Law and contracts for IS managers.
- Negotiations.
- IS governance.
- IS leadership and staffing.

References

Reading list available prior to commencement of semester.

HIT8033 Information Systems Development Project

25 Credit Points  • 1 Semester  • 48 Hours  • Hawthorn  • Prerequisite: HIT8016 or equivalent  • Corequisites: HIT8126  • Teaching methods: Lectures, supervised Laboratories, with Tutorials as required  • Assessment: Reports.

Aims & Objectives

This subject aims:

- To offer students the opportunity to investigate the capabilities of modern database products.
- To investigate and apply suitable design methods.

Content

- Object-oriented and object-relational database management systems.
- Object-oriented analysis and design methods.
- Information-oriented design methods.

References

**HIT8035  Information Technology Effectiveness**

12.5 Credit Points  • 1 Semester  • 36 Hours  • Hawthorn  • Prerequisite: Nil (IMS subject)  • Teaching methods: Lectures, Group Work  • Assessment: Individual Assignments, Group Assignment.

A subject in the Master of Information Systems.

**Aims & Objectives**

The subject introduces students to the complexities and considerations associated with making effective investments in IT. Students are exposed to both financial and strategic perspectives in assessing the effectiveness of an organisational IT portfolio.

**Content**

- IT effectiveness and its link to Business Value.
- The effectiveness of different classes of IT investment.
- Financial Management, including cash flow, capital expenditure analysis, cost allocation, charge out.
- Evaluation of IT investments and specifically IT infrastructure.

**References**

Reading list available prior to commencement of semester.

**HIT8039  Local Area Networks**

12.5 Credit Points  • 1 Semester  • 48 Hours  • Hawthorn  • Prerequisite: A university level C/C++ programming subject  • Consequences: HIT7072  • Teaching methods: Lecture (2 Hours per Week), Laboratory (2 Hours per Week)  • Assessment: Assignments, Examinations.

A subject in the Master of Information Technology.

**Aims & Objectives**

Local area networks are fundamental components of Open Systems, providing the framework within which all components must participate. This subject provides the background knowledge and concepts used in all other areas of the course. By the end of this subject, students should be able to:

- Appreciate the relative merits and weaknesses of common network topologies and media.
- Explain the operation of common network protocols.
- Understand how repeating, bridging and routing work and relate to the OSI (Open Systems Interconnection) Model.
- Understand configuration and management issues.

**Content**

- Overview and functionality of Media Access Control (MAC) and Logical Link Control (LLC) sublayers.
- Ethernet, token ring, token bus networks.
- High speed and bridged local area networks.
- Gigabit Ethernet, ATM LAN's.
- LAN switching.
- Overview of Network Operating Systems and associated application layer protocols: UNIX, NetWare and Windows NT.

**References**


**HIT8040  Multimedia Systems**

12.5 Credit Points  • 1 Semester  • 36 Hours  • Hawthorn  • Prerequisite: Nil  • Teaching methods: Lectures (2 Hours per Week), Laboratory (1 Hour per Week)  • Assessment: Assignments, Examinations.

A subject in the Master of Information Technology.

**Aims & Objectives**

To introduce the technologies, concepts and techniques associated with the development of multimedia systems.

**Content**

- Introduction and review - definition, fundamental concepts, media types and application areas.
- Media Types - text, graphics, images, audio, animation, video - digital representation, formats, standards, capturing hardware, processing software.
- Multimedia development methodology and approaches to developing multimedia.
- Compression - compression methods, binary image compression schemes, color, grey scale and still-image compression, video image compression-audio compression.
- Multimedia hardware and software - components of a multimedia system, optical storage, input and output technologies, authoring software, processing software.
- Multimedia documents, databases and hypertext - hypermedia, SGML, HTML, OpenDoc, MHEG.
- Multimedia user interfaces and design fundamentals - specific design issues and approaches, navigation issues, user centred design and development.
- Multimedia communication systems - multimedia servers, high speed LANs, distributed multimedia databases, video conferencing and collaborative work environments.
- Multimedia programming and scripting - programming languages for multimedia, multimedia scripting languages for authoring tools.
- Evaluation of multimedia systems - evaluation techniques and methods.
- Current research and future directions.

**References**


**HIT8041  Advanced Web Development**

12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: Some programming experience. Preclusions: HIT7041, HIT7091  • Teaching methods: Lectures, Laboratory  • Assessment: Assignments, Examinations.

Master of Information Technology.

**Aims & Objectives**

To introduce the technologies, concepts and techniques associated with the development of advanced World Wide Web systems.

**Content**

- Introduction to the World Wide Web - definition, history and fundamental concepts.
- HTML - document structure, images, links, image maps, tables, frames.
- Protocols and server technology - HTTP, MIME, URIs.
- JavaScript - syntax, DOM, forms processing, common tasks.
- Style Sheets - fundamentals, CSS formatting, CSS positioning, standards.
- DHTML - dynamic techniques, data-aware documents.
- Web design and usability - principles of navigation, usability, style guides, standards.
- CGI programming - forms, elementary CGI concepts, CGI programming.
- XML - syntax, DTDs, RDFS, XSL.
- Active Server Pages (ASP) - fundamental purpose and operation.

**Textbook**


**References**

**HIT8045  Personal Software Process**

12.5 Credit Points  •  1 Semester  •  24 Hours  •  Hawthorn  •  Prerequisite: Proficiency in a programming language and some statistical knowledge.  •  Teaching methods: Lecture (2 Hours per Week). There is also private assignment work, which builds an understanding of issues through experiential learning.  •  Assessment: Assignments.  •  A subject in the Master of Information Technology.

**Aims & Objectives**
- To establish the need for discipline in software engineering.
- To guide students to discover the methods of software development which make them personally most effective (e.g., time and defect recording, coding standards, size measurement, size estimating, task planning, schedule planning, design reviews, design templates, code reviews).
- To provide students with the knowledge base required to manage their own personal software process and to understand methods which are of benefit to them.

**Content**
The course follows closely the ‘Personal Software Process’ course developed by Watts S. Humphrey, Software Engineering Institute, Carnegie Mellon University, USA. It addresses:
- The baseline personal process (time/defect recording, coding standards, size measurement).
- The personal planning process (size estimating, task planning, schedule planning).
- Personal quality management (design reviews, design templates, code reviews).
- Cyclic personal process (cyclic process improvement).

**References**

**HIT8050  Evolutionary and Neural Computing**

12.5 Credit Points  •  1 Semester  •  4 Hours per Week  •  Hawthorn  •  Prerequisite: A university-level AI subject  •  Teaching methods: Lecture (2 Hours per Week), Laboratory (1 Hour per Week)  •  Assessment: Assignments, Examinations, Practice Sessions.  •  A subject in the Master of Information Technology.

**Aims & Objectives**
To introduce and investigate non-deterministic computational methods and their application to complex problem domains.

**Content**
- Introduction.
- Methods of inference, Deductive logic, Induction.
- Approximate reasoning.
- Symbolic and sub-symbolic processing.
- Neurocomputing.
- An introduction to parallel processing in networks.
- Perceptrons.
- Multi-layer networks (back-propagation).
- The associative memory problem (the Hopfield model).
- Unsupervised competitive learning.
- Other neural networks architectures.
- Evolutionary computation.
- Foundations of evolutionary computation.
- Generic algorithms.
- Genetic programming.
- Applications.
- Fuzzy systems.
- Fuzzy sets, logic, the basics of fuzzy systems.
- Fuzzy systems applications.
- Hybrid Systems.

**References**

**HIT8055  Software Maintenance Project**

12.5 Credit Points  •  1 Semester  •  36 Hours  •  Hawthorn  •  Prerequisite: HIT8159 and HIT7057 or equivalent  •  Corequisite: NIL  •  Teaching methods: Lectures, Groupwork, Laboratories.  •  Assessment: Assignments, Group Work, Presentations, Examinations.  •  A subject in the Master of Information Technology program.

**Aims & Objectives**
To provide students with a small team project experience involving significant corrective enhancement and maintenance on an existing software system.

**Content**
Taught component will address major conceptual and process issues associated with software maintenance.

**References**

**HIT8057  Software Testing and Reliability**

12.5 Credit Points  •  1 Semester  •  3 Hours per Week  •  Hawthorn  •  Prerequisite: A university level Software Engineering subject  •  Teaching methods: Lectures (2 Hours per Week), Tutorial/Workshop.  •  Assessment: Assignments, Examinations.  •  A subject in the Master of Information Technology.

**Aims & Objectives**
To facilitate an in-depth study by students of a selection of current approaches and techniques in the advanced technologies that underpin the conduct and control of contemporary software development.

**Content**
Modules selected from a collection, covering important issues in software engineering, such as:
- Maintenance.
- Metrics.
- Reliability.
- Software architecture.
- Software quality.
- Testing.
- Validation and verification.

**References**
To be advised.

**HIT8060  Systems Project Management**

12.5 Credit Points  •  1 Semester  •  3 Hours per Week  •  Hawthorn  •  Prerequisite: MIS students: no prerequisites. MIT Students require approval of MIS and MIT Program Managers.  •  Teaching methods: Lectures, Seminars, Presentations by guests from industry and by students taking the subject.  •  Assessment: Individual and Group Assignments, Presentations, Final Examination.  •  A subject in the Master of Information Systems and Master of Information Technology (normally at least 4 years IT industry experience required).

**Aims & Objectives**
Understand the genesis of project management and its importance to improving the success of information technology projects. Demonstrate knowledge of project management terms and techniques such as:
- The constraints of project management.
- The project management knowledge areas and process groups, as specified in the Project Management Body of Knowledge (PMBOK).
- The project life cycle.
- Tools and techniques of project management such as project selection methods and work breakdown structures.
- Network diagrams and critical path analysis. Cost estimates, Earned value analysis, Motivation theory and team building.
- Appreciate the importance of good project management.
- Share his/her own examples of good and bad project management.
• Use knowledge and skills developed in the class in other settings.

**Content**
- Introduction to Project Management.
- The Project Management Context and Processes.
- Project Integration Management.
- Project Scope Management.
- Project Time Management.
- Project Cost Management.
- Project Quality Management.
- Project Human Resources Management.
- Project Communications Management.
- Project Risk Management.
- Project Procurement Management.

- Initiating Projects.
- Planning Projects.
- Executing Projects.
- Controlling Projects.

**References**

**HIT8063 UNIX Systems Programming**
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: A university level C/C++ programming subject. • Corequisites: HIT7072 • Teaching methods: Lecture, Laboratory (2 Hours per Week each). • Assessment: Assignments, Examinations.

A subject in the Master of Information Technology.

**Aims & Objectives**
- To study the advanced use of the UNIX system by a consideration of a selection of the system calls.
- To study the development of network-aware software.

**Content**
- Low level I/O.
- File system access and manipulation; time under UNIX.
- Process control.
- Accessing user information.
- Signals and interrupts.
- Interprocess communication and networking.
- Remote procedure calls (RPC) and distributed computing environment (DCE) services.
- I/O to terminals and device control.

**References**

**HIT8064 Wide Area Networks**
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: HIT8039 • Teaching methods: Lecture (2 Hours per Week), Laboratory (2 Hours per Week). • Assessment: Assignments, Examinations.

A subject in the Master of Information Technology.

**Aims & Objectives**
To give students an understanding of the operational principles of wide area networks and Internet protocols.

**Content**
- A Review of Metropolitan Area Network (MAN) and Wide Area Network (WAN) technologies.
- Internetworking concept and architectural model.
- Connectionless datagram delivery.
- Routing IP datagrams.
- Error and control messages (ICMP).

- Subnet and supernet address extensions.
- User Datagram Protocol (UDP).
- Reliable stream transport service (TCP).
- Routing.
- Cores, peers, and algorithms (GGP).
- Autonomous systems (EGP).
- Routing in an autonomous system (RIP, OSPF, HELLO).
- Internet multicasting (IGMP).
- The Domain Name System (DNS).
- Internet security and firewall design.
- The future of TCP/IP and the Internet (IPv6, Internet-II).

**References**

**HIT8065 Windows Programming**
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: HIT7072 or equivalent or a university subject in C language • Teaching methods: Lectures, Laboratory (2 Hours per Week each). • Assessment: Assignments, Examinations.

A subject in the Master of Information Technology.

**Aims & Objectives**
- To study the Windows interface programming paradigm.
- To provide a theoretical and practical background for the development of software under the Windows operating system.
- To have a solid foundation in the WIN32 API.

**Content**
- Windows interface and architecture.
- The WIN32 API.
- The Microsoft Foundation Class Library.
- Documents and Views.
- Dialog Boxes, Menus, Toolbars.
- Graphical Operations.
- Enhanced Views.
- Dynamic Link Libraries.

**References**

**HIT8066 Software Tools**
12.5 Credit Points • 1 Semester • 24 Hours • Hawthorn • Prerequisite: A university level Software Engineering subject. • Corequisites: Nil • Teaching methods: Class • Assessment: Assignments, Examinations.

A subject in the Master of Information Technology.

**Aims & Objectives**
- To introduce the notion of disciplined software processes and their place in the improvement of software development practice.
- To introduce a number of the techniques and tools necessary for the successful management of medium to large-scale software development projects.

**Content**
- Software Project Management.
- Software Costing and Scheduling.
- Software Quality Management.
- Software Process Issues.
- Software Process Improvement.
References
Additional papers may also be provided.

HIT8067 Minor Thesis
50 Credit Points • 2 Semesters • 4 Hours per Week • Hawthorn • Prerequisite: Requires approval of Program Manager • Teaching methods: Supervised reading, field work and individual consultation as required • Assessment: Written Report, Reports.
A subject in the Master of Information Technology.

Aims & Objectives
To provide an opportunity for students to develop analytical, research and report writing skills while exploring a topic in depth.

Content
Students will work on an approved project under staff supervision. Projects will require a literature survey and a theoretical or experimental investigation. A preliminary proposal of the project to be undertaken must be submitted for approval by the Program Manager and it is expected that topics will be related to the current research interests of staff.
There will be a requirement for formal monthly reporting by the candidates, both oral and written throughout the project. Failure to meet satisfactory standards of progress may preclude final submission for the Masters degree. Students will present their research results to staff and students in a school seminar or equivalent. The thesis will be examined by at least two examiners.

References
There is no prescribed text. Students will be directed to appropriate books and journal articles.

HIT8068 Research Seminar
12.5 Credit Points • Hawthorn • Prerequisite: Requires approval of Program Manager • Assessment: Research Paper.
A subject in the Master of Information Technology.

Aims & Objectives
In this subject students attend an approved selection of school research seminars and prepare 1,000 word critical summary for each of six research seminars attended. One or more background articles are supplied to assist students in their critique of each seminar.

HIT8069 Research Paper
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: Requires approval of Program Manager • Teaching methods: Supervised reading, field work and individual consultation as required • Assessment: Written Report.
A subject in the Master of Information Technology.

Aims & Objectives
To provide a flexible program of study which allows the student to undertake a special project. This would require research into a topic that is relevant to the course but alternative to the prescribed subjects in Stage 2.

Content
Students will prepare a 5000 word article on a topic chosen in consultation with staff. Generally the paper will take the form of a comprehensive literature review of a topic of contemporary interest.

References
There is no prescribed text. Students will be directed to appropriate books and journal articles.

HIT8088 Electronic Commerce Management
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Completion of 4 MIS subjects. Students from other courses need the approval of the Course Program Manager and Program Manager, MIS • Teaching methods: Lectures, Group Work • Assessment: Assignments, Group Work, Presentations.
A subject in the Master of Information Systems.

Aims & Objectives
This subject exposes students to the contemporary managerial thought associated with the electronic commerce (EC) phenomenon currently sweeping through the global economy. The subject introduces contemporary management philosophies as they have come to be used for the marketing, selling, and distribution of goods and services through the Internet, World Wide Web and other electronic media. Issues will be examined from the perspective of business management.

Content
- Overview of EC infrastructure.
- Theoretical Foundations for EC.
- Competitive Properties of the Internet.
- Business Strategy in an Electronic Age.
- Formulating & Implementing an EC Strategy.
- Aspects of EC in Australia.

References
Available prior to semester commencement.

HIT8093 XML Technologies
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HIT1091/HIT5069 or HIT3041/HIT8041 • Corequisites: N/1 • Teaching methods: Lectures, Laboratory • Assessment: Assignments, Examinations
A subject in the Master of Information Technology.

Aims & Objectives
To introduce the Extensible Markup Language (XML) and its associated technologies in the development and usage of World Wide Web systems. The subject will have both a practical orientation developing skills in XML programming and a research orientation developing thinking about issues in XML.

Content
Introduction to XML - definition, history, fundamental concepts and benefits
- Document Type Definitions-XML parsers and validators
- XML Schema
- Extensible Stylesheet Language - XSLT and XPath
- RDFs
- XHTML
- Xpointer and XPath
- XSL Formatting Objects
- Applications of XML-XML, MathML, etc.

References
Textbook

HIT8070 Research Report
25 Credit Points • 2 Semesters • 48 Hours per Semester • Hawthorn • Prerequisite: Requires approval of Program Manager • Assessment: Written Report.
A subject in the Master of Information Technology.

Aims & Objectives
To provide a flexible program of study which allows the student to undertake a special project. This would require research into a topic that is relevant to the course but alternative to the prescribed subjects in Stage 2.
HIT8096  .Net Architecture

12 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Corequisites: Nil • Teaching methods: Lectures, Laboratory • Assessment: Assignments, Examination

A subject in the Master of Information Technology

Aims & Objectives
Describe the architectural design of .Net
- Explain the workings of major .Net features such as the common-language runtime, self-describing types and dynamic type extension
- Discuss advantages and disadvantages of such features for system developers
- Define Web Services, and explain how they are created and used
- Discuss issues involved in migrating application development to .Net

Content
.Net overview
- Structure of the .Net platform
- Relationship to Windows operating system
- Common Language Runtime (CLR), and managed code
- CLR type system, .Net class libraries
- Programming languages, mixed language development
- ASP.Net environment, WinForms, Web services
- Metadata, self-hyphen describing types, reflection, dynamic type extension
- Security, type safety, permission objects
- Standards, XML, Simple Object Access Protocol (SOAP)
- Visual Studio .Net

References
Microsoft Developer Network (MSDN), .NET documentation.

HIT8097 Programming for .Net

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: HIT8010 and HIT8016 or equivalent • Corequisites: Nil • Teaching methods: Lectures, Laboratory • Assessment: Assignments, Tests, Examinations

A subject in the Master of Information Technology

Aims & Objectives
At the end of this subject student will be able to:
- Develop complex Object Oriented programs including the use of Events, Inheritance, Interfaces, and Abstract Classes.
- Develop distributed application that uses Web Forms, Web Services, and Windows Forms.
- Develop web systems that will interact safely with database systems.
- Develop applications that use the .Net approach to databases.
- Distribute applications including setup programs.
- Create help files and implement context sensitive help.
- Create projects that use multiple languages, and use components regardless of the implemented language.
- Understand the use of the .Net framework and how it can be used in application development.

Content
Detailed examination of Object Oriented Programming.
- Introduction to .Net database connectivity in a concurrent environment.
- Introduction to the C# programming language and multiple language projects and implementation.

References

HIT8119 Enterprise Java

12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: HIT7007 or HIT5052 • Corequisites: Nil • Teaching methods: Lectures, Laboratory • Assessment: Assignments, Examinations

A subject in the Master of Information Technology

Aims & Objectives
To understand and develop database and network software using Java to examine web-based databases.

Content
- Threads.
- Sockets.
- Swing.
- JDBC.
- RMI.
- Java IDL.
- Client Server development using Java.
- Security.
- Servlets.
- Enterprise Java Beans.
- Web database development using Java.

Textbook

References
Other books on Java Networking and Web Database Technology.

HIT8121 Internet Transaction Processing and Security

12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: HIT8052 or HIT7007 or HIT5052 • Corequisites: Nil • Teaching methods: Lectures (2 hrs per week), Laboratory (2 hrs per week) • Assessment: Assignments, Examinations

A subject in the Master of Information Technology

Aims & Objectives
To provide a theoretical and practical background for the development of distributed software using an object-oriented approach.

Content
- CORBA.
- DCOM.
- Comparison and bridges between the two technologies.

References

HIT8126 Advanced Data Modelling

12.5 Credit Points • 1 Semester • 2 Hours per Week • Hawthorn • Prerequisite: HIT8016 or equivalent • Corequisite: HIT8126 or equivalent • Teaching methods: Lecture/Tutorial • Assessment: Assignments, Examination

A subject in the Master of Information Technology

Aims & Objectives
To extend students' knowledge and understanding of and competency in the modelling of data requirements in a business oriented setting.

Content
- The aims of data modelling and its role in information systems development.
- The NIAM approach to developing a fact model.
- The underlying assumptions and limitations of NIAM.
- Development of a fact model diagram using the NIAM approach for a given business scenario.
- Conversion of a NIAM conceptual schema into relational logical schema.
- Conversion of NIAM fact models into equivalent Entity Relationship models.
- Optimizing a NIAM conceptual schema using appropriate schema transformations.
- Schema Integration.

References

HIT8127 Component Modelling and Design
12.5 Credit Points • 1 Semester • 2 Hours per Week • Hawthorn • Prerequisite: HIT5091 or HIT8140 Multimedia for WWW
Aims & Objectives
- To study a range of methods for modelling information systems, with emphasis on behavioural (dynamic) aspects.
- To evaluate modelling techniques and noations for use at different stages of the IS development process.
- To study component-based development (CBD) of information systems.
- To investigate the implications of CBD for IS modelling.

Content
- Concepts and terminology for information systems modelling.
- Selected techniques from Structured Systems Analysis and Design Methods (SSADM).
- The Unified Modeling Language (UML).
- State-transition diagrams and statecharts.
- Some UML-based modelling methods for IS development.
- Other techniques (business rules, activity diagrams, workflow).
- Evaluation criteria for IS models (requirements, specification and design models) and for the IS modelling process.
- Information-oriented approaches to IS modelling.
- Component-based development.
- Models and modelling for component-based development.

References

HIT8140 Multimedia for WWW
12.5 Credit Points • 1 Semester • 36 Hours • Hawthorn • Prerequisite: HIT7289 or HIT8041 • Corequisites: Nil • Teaching methods: Lectures (2 hrs per week), Laboratory (1 hr per week) • Assessment: Assignments, Examinations
A subject in the Master of Information Technology

Aims & Objectives
- To introduce the technologies, concepts and techniques associated with the development of multimedia systems.

Content
- Introduction and review - definition, fundamental concepts, media types and application areas.
- Media Types - text, graphics, images, audio, animation, video - digital representation, formats, standards, capturing hardware, processing software.
- Multimedia development methodology and approaches to developing multimedia.
- Compression - compression methods, binary image compression schemes, color, grey scale and still-image compression, video image compression audio compression.
- Multimedia hardware and software - components of a multimedia system, optical storage, input and output technologies, authoring software, processing software.
- Multimedia documents, databases and hypertext - hypermedia, SGML, HTML, OpenDoc, NHEG.
- Multimedia user interfaces and design fundamentals - specific design issues and approaches, navigation issues, user centred design and development.
- Multimedia communication systems - multimedia servers, high speed LANs, distributed multimedia databases, video conferencing and collaborative work environments.
- Multimedia programming and scripting - programming languages for multimedia, multimedia scripting languages for authoring tools.
- Evaluation of multimedia systems - evaluation techniques and methods.
- Current research and future directions.

References

HIT8142 Object Oriented Modelling
12.5 Credit Points • 1 Semester • 2 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Lecture/Tutorial (2 Hours per Week) • Assessment: Examination, Tests.
A subject in the Master of Information Technology

Aims & Objectives
- Explain and illustrate the fundamental concepts of object orientation.
- List and describe the features and models available in the UML (Unified Modelling Language).
- Read, verify, and validate a given specification presented in UML.
- Discuss what qualities contribute to a good UML specification.
- Given a system requirements description, produce a specification and implementation using UML.

Produce a rationale of the various design choices made in producing a system specification in UML.

Content
- Introduction to object-oriented concepts.
- Overview of the UML modelling language.
- Class diagrams.
- Use cases.
- Interaction diagrams.
- State diagrams.
- Modelling heuristics.

References

HIT8143 Design Patterns for Programming
12.5 Credit Points • 1 Semester • 2 Hours per Week • Hawthorn • Prerequisite: HIT7072 • Teaching methods: Lectures, Tutorials • Assessment: Assignments, Examinations.
A subject in the Master of Information Technology

Aims & Objectives
To introduce advanced techniques of Object Oriented Programming to explore software engineering principles supported by such techniques.
Content
- C++ Revision.
- Evaluating C++ as a Language.
- Advanced C++ Programming.
- C++ Idioms.
- Patterns and frameworks.
- OO Testing, Maintenance and Metrics.

References
Gamma, E., et al., Design Patterns Elements of Reusable Object-Oriented Software, Addison-Wesley, 1995.

HIT8157 Large Scale System Design
12.5 Credit Points  1 Semester  24 Hours  Hawthorn  Prerequisite: A university level Software Engineering subject.  Teaching methods: Lectures/Tutorial/Workshop  • Assessment: Assignments, Examinations.
A subject in the Master of Information Technology.

Aims & Objectives
To introduce a number of the techniques and tools necessary for the successful management of medium to large-scale software development projects.

Content
- Architecture and frameworks.
- Architectural styles and patterns.
- History and significance of architectures.
- Architectural design.

References
Gamma, E., et al., Design Patterns Elements of Reusable Object-Oriented Software, Addison-Wesley, 1995.

HIT8189 Usability Engineering
12.5 Credit Points  1 Semester  36 Hours  Hawthorn  Prerequisite: HIT8023 or HIT6024 and HIT8159 or HIT6301  • Corequisites: Nil  • Teaching methods: Lectures, Tutorials  • Assessment: Assignments, Examinations.
A subject in the Master of Information Technology.

Aims & Objectives
To explore a range of human-computer interaction issues important to software engineering.

Content
- A selection of modules from:
  - Task analysis.
  - Internationalisation.
  - Formal approaches to specification and design.
  - Accessibility.
  - Visualisation.
  - Non-GUI and specialist interfaces (e.g. mobile phones, speech interfaces).
  - Patterns for usability.
  - CSW issues.

References
To be advised.

HMDP501 Individual Multimedia Project 1
12.5 Credit Points  12 Weeks  6 Hours per Week  Prahran  Prerequisite: (HIT8023 or HIT6024) and (HIT8159 or HIT6301)  • Corequisites: Nil  • Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques.  • Assessment: Progressive evaluation of work through each semester. A completed minor project in digital presentation together with workbook/journal and digital files submitted at the end of each semester.
A subject in the Graduate Certificate of Design (Multimedia Design); Graduate Diploma of Design (Multimedia Design); and Master of Design (Multimedia Design).

Aims & Objectives
- To develop an understanding of the practice of design and narrative structure in multimedia design methods and technology.
- To introduce the fundamental aspects of the content, function and context of visual communication within a multimedia project.

Content
This subject consists of an individual minor project through which the student will investigate aspects of design and sequence for multimedia. The project will develop the special principles of design that assist the design process in various media. Projects and workbooks will describe the design strategies that inform the practice of multimedia design. Presentations will demonstrate an understanding of the structural, sequencing and spatial organisation that describe aspects of visual communication. Investigations will begin into audio, video, animation, filmic imagery and 3D modelling requirements for digital delivery.

References
Additional papers may also be provided.

References
Gamma, E., et al., Design Patterns Elements of Reusable Object-Oriented Software, Addison-Wesley, 1995.

HIT8159 Software Quality Management
12.5 Credit Points  1 Semester  24 Hours  Hawthorn  Prerequisite: A university level Software Engineering subject.  • Corequisites: Nil  • Teaching methods: Class (2 hrs per week)  • Assessment: Assignments, Examinations.
A subject in the Master of Information Technology.

Aims & Objectives
To introduce the notion of disciplined software processes and their place in the improvement of software development practice.

Content
- Software Project Management.
- Software Costing and Scheduling.
- Software Quality Management.
- Software Process Issues.
- Software Process Improvement.

References
Gamma, E., et al., Design Patterns Elements of Reusable Object-Oriented Software, Addison-Wesley, 1995.
HMDP502 Individual Multimedia Project 2

12.5 Credit Points • 12 Weeks • 6 Hours per Week • Prahran • Prerequisite: HMDP501
- Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques.
- Assessment: Progressive evaluation of work throughout the semester. A completed minor project in digital presentation together with workbook/journal and digital files submitted at the end of the semester.

A subject in the Graduate Certificate of Design (Multimedia Design); Graduate Diploma of Design (Multimedia Design); and Master of Design (Multimedia Design)

Aims & Objectives
- To further develop an understanding of the practice of design and narrative structure in multimedia design methods and technology.
- To encourage creative and expressive development of design, narrative form and sequenced image making for multimedia.

Content
This subject consists of an individual minor project through which the student will undertake advanced investigation of aspects of design and sequence for multimedia. The project will develop the special principles of design that help the design process in various media. Projects and workbooks will describe the design strategies that inform the practice of multimedia design. Presentations will provide an understanding of the structural, sequencing and spatial organisation that describes aspects of visual communication. Further investigations will be made into audio, video, animation, filmic imagery and 3D modelling requirements for digital delivery. Creative, innovative and expressive development of video/image/sound/interactive forms will be encouraged.

References

HMDP602 Individual Multimedia Project 4

12.5 Credit Points • 12 Weeks • Prahran • Prerequisite: HMDP502 • Teaching methods: Lectures and tutorials. • Assessment: Progressive evaluation of work throughout each semester, with a digital project and workbook presented at the end of each semester.
A subject in the Graduate Certificate of Design (Multimedia Design); Graduate Diploma of Design (Multimedia Design); and Master of Design (Multimedia Design)

Aims & Objectives
- To produce, through independent intellectual research, a minor interactive multimedia project.
- To explore through innovation and creativity the defining processes of interactive multimedia design.

Content
Through focused exploration the project will contrast with the project in HMDP601 and demonstrate a comprehensive knowledge of the potential of interactive multimedia, or highlight an in-depth understanding of a particular aspect of the media such as scripting within non-linear formats, multimedia for special needs or targeted audiences, experimental animation and video techniques, the design of physical and virtual environments etc.

References
Von Arx P., Film Design (Basil School of Design), Van Nostrand Reinhold, NY, 1983.

HMDP601 Individual Multimedia Project 3

12.5 Credit Points • 12 Weeks • Prahran • Prerequisite: HMDP501 • Teaching methods: Lecture and tutorial. • Assessment: Progressive evaluation of work throughout each semester, with a digital project and workbook presented at the end of each semester.
Submission of minor thesis (2500 words)
A subject in the Graduate Certificate of Design (Multimedia Design); Graduate Diploma of Design (Multimedia Design); and Master of Design (Multimedia Design)

Aims & Objectives
- To produce through independent intellectual research a minor interactive multimedia project.
- To explore through innovation and creativity the defining processes of interactive multimedia design.

Content
Through focused exploration the project will demonstrate a comprehensive knowledge of the potential of interactive multimedia, or highlight an in-depth understanding of a particular aspect of the media such as scripting within non-linear formats, multimedia for special needs or targeted audiences, experimental animation and video techniques, the design of physical and virtual environments etc.

A minor dissertation is integrated into this subject and will, through critique, analysis and synthesis, describe the process and outcome of the project.

References
Von Arx P., Film Design (Basel School of Design), Van Nostrand Reinhold, NY, 1983.

HMDT501 Multimedia Design Technology 1

12.5 Credit Points • 24 Weeks • 3 Hours per Week • Prahran • Prerequisite: Nil
Assessment: Progressive evaluation of work throughout each semester, with a digital project and workbook presented at the end of each semester. Projects can be integrated with Multimedia Design Projects.
A subject in the Master of Design (Multimedia Design)

Aims & Objectives
- To develop an understanding of the practice of design in multimedia design methods and technology.
- To introduce the fundamental aspects of the content, function and context of visual communication as applied to multimedia.

Content
This subject has three study areas:
Visual Communication 1
Students will investigate key aspects of design and communication through various projects. The projects will further develop the principles of design that help define and refine the design process in various media. They will also apply specific design systems in conceptual and critical problem solving. Projects and workbooks will describe the design strategies that inform the practice of multimedia design.

Audio and Video 1
Introduction to the basics of video and audio techniques. This will cover:
- Basic principles of video camera work-panning, focusing, lighting, shooting of scenes, characters using tripod and handheld techniques.
- Comparison of analog and digital input and output, image capture, editing, manipulation, compression considerations for CD-ROM and WWW delivery.
- Audio requirements for digital multimedia outcomes, investigation into human audio capabilities, digital audio capture, manipulation and outcome considerations as applied to voice, music and ambient requirements.

Interactive Multimedia Scripting, Internet Communication
Intensive introduction to, and exploration of, interactive mediums and the World Wide Web as communication mediums. This will cover an introduction to vector and bit map animation delivery within these mediums, industry standard authoring software packages, Lingo and HTML scripting for interactive production over the world wide web and other specific mediums.

References

HMDT502 Multimedia Design Technology 2
12.5 Credit Points • 12 Weeks • 3 Hours per Week • Prahran  Prerequisite: HMDT501
- Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques.
- Assessment: Progressive evaluation of work through the semester, with a digital project and workbook presented at the end of the semester. Projects can be integrated with Multimedia Design projects.
A subject in the Graduate Certificate of Design (Multimedia Design); Graduate Diploma of Design (Multimedia Design); and Master of Design (Multimedia Design)

Aims & Objectives
- To further develop an understanding of the practice of design in multimedia design methods and technology.
- To develop the fundamental aspects of the content, function and context of visual communication as applied to multimedia.

Content
This subject has three study areas:

Visual Communication 2
Students will further investigate key aspects of design and communication through various projects. These projects will further develop the principles of design that help define and refine the design process in various media. They will also apply specific design systems in conceptual and critical problem solving. Projects and workbooks will describe the design strategies that inform the practice of multimedia design.

Audio, Video, 3D Modelling and Virtual Reality 1
Introduction to more advanced aspects of video and audio techniques. This will cover:
- Advanced aspects of video and audio techniques using digital capture and appropriate compression and decompression software (codecs).
- Further principles of video camera work-panning, focusing, lighting.
- Basic understanding and utilisation of the QuickTime standard as applied to audio, video and 3D interpretation and realisation.
- An introduction to specialist 3D modelling software and use of rendering, modelling, sculpting and lighting techniques to assimilate various physical properties.

Interactive Multimedia Scripting, Internet Communication
Further exploration of interactive mediums and the World Wide Web as a communication medium. Advanced application of vector and bit map animation delivery within these mediums. Further development of industry standard authoring software packages and Lingo and HTML scripting for interactive production over the World Wide Web and other specific mediums.

References
Heinle, N., Designing with Java Script, O'Reilly, Berkeley, Cal, 1997.

HMDT601 Multimedia Design Technology 3
12.5 Credit Points • 12 Weeks • Prahran  Prerequisite: HMDT502  Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques.
- Assessment: Progressive evaluation of work through the semester, with a digital project and workbook presented at the end of the semester. Projects can be integrated with Multimedia Design Projects.
A subject in the Graduate Certificate of Design (Multimedia Design); Graduate Diploma of Design (Multimedia Design); and Master of Design (Multimedia Design)

Aims & Objectives
- To develop specialist knowledge of the practice of design in multimedia design methods and technology.
- To develop specialist knowledge of the content, function and context of visual communication as applied to multimedia.

Content
This subject has three study areas:

Visual Communication 2: students will further investigate key aspects of design and communication through various projects. The projects will further develop the principles of design that help define and refine the design process in various media, and apply specific design systems in conceptual and critical problem solving. Projects and workbooks will describe the design strategies that inform the practice of multimedia design.

Audio, Video, 3D Modelling and Virtual Reality: Exploration of advanced aspects of video and audio techniques using digital capture and appropriate compression and decompression software (codecs). Understanding and utilisation of the QuickTime standard as applied to audio, video and 3D interpretation and realisation. Introduction to specialist 3D modelling software and use of rendering, modelling, sculpting and lighting techniques to assimilate various physical properties.

Interactive Multimedia Scripting: Further exploration of interactive mediums and the World Wide Web as a communication medium. Advanced application of vector and bit map animation delivery within these mediums. Further development to an expert level of industry standard authoring software packages and Lingo and HTML scripting for interactive production over the world wide web and other specific mediums.

To introduce to and awareness of Java and Java based applets as applied to the World Wide Web.

References
Heinle, N., Designing with Java Script, O'Reilly, Berkeley, Cal, 1997.

HMDT602 Multimedia Design Technology 4
12.5 Credit Points • 12 Weeks • Prahran  Prerequisite: HMDT601
- Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques.
- Assessment: Progressive evaluation of work through the semester, with a digital project and workbook presented at the end of the semester. Projects can be integrated with Multimedia Design Projects.
A subject in the Graduate Certificate of Design (Multimedia Design); Graduate Diploma of Design (Multimedia Design); and Master of Design (Multimedia Design)

Aims & Objectives
- To develop specialist knowledge of the practice of design in multimedia design methods and technology.
- To develop specialist knowledge of the content, function and context of visual communication as applied to multimedia.

Content
This subject has three study areas:
Visual Communication 2: Students will further investigate key aspects of design and communication through various projects. The projects will further develop the principles of design that help define and refine the design process in various media. Projects and workbooks will describe the design strategies that inform the practice of multimedia design. To apply specific design systems in conceptual and critical problem solving.
Audio, Video, 3D Modelling and Virtual Reality: Exploration of advanced aspects of video and audio techniques using digital capture and appropriate codecs. Understanding and utilisation of the QuickTime standard as applied to audio, video and 3D interpretation and realisation. Introduction to specialist 3D modelling software and user of rendering, modelling, sculpting and lighting techniques to assimilate various physical properties.
Interactive Multimedia Scripting: Further exploration of interactive mediums and the World Wide Web as a communication medium. Advanced application of vector and bitmap animation delivery within these mediums. Further development to an expert level of industry standard authoring software packages and Lingo and HTML scripting for interactive production over the world wide web and other specific mediums. Introduction to and awareness of Java and Java based applets as applied to the World Wide Web.

References
Heinie, N., Designing with Java Script, O'Reilly, Berkeley, Cal, 1997.

HM600 Introductory Human Factors
12.5 Credit Points • 1 Semester • Equivalent to four Hours contact per Week. • Hawthorn • Prerequisite: Nil • Teaching methods: Distance Education, 2 day in house Seminar. • Assessment: Assignments, Examinations.
A subject in the Graduate Certificate in Aviation Human Factors, Graduate Diploma in Aviation Human Factors, Master of Technology in Aviation Human Factors, Graduate Certificate of Design (Multimedia Design); and Master of Design (Multimedia Design)

Aims & Objectives
This subject is designed to be presented in a distance education format. It aims to provide students with an advanced understanding of leadership and teamwork and management issues associated with the aviation industry and aviation companies impinge on the human factors training and decisions.

Content
The topics studied in detail in this subject will be drawn from the following:
- Air Transportation.
- Trade.
- National Importance.
- Employment.
- ICAO film.
- IATA.
- Chicago Convention.
- Annex’s to Chicago convention.
- Freedoms of the air.
- Transport and air service agreements.
- National regulation.
- Air operators certificates.
- Certification of aircraft.
- OPS manuals.
- Legal documents.
- Noise requirements.
- Basic costing - direct and indirect.
- Facilitation - AF Development, noise pollution.
- Aviation security.
- Flight simulation.

Textbook

HM602 Crew Resource Management/Leadership
12.5 Credit Points • 1 Semester • Equivalent to 4 Hours per Week. • Hawthorn • Prerequisite: Nil • Teaching methods: Distance Education, 2 day in house Seminar. • Assessment: Assignments, Examinations.
A subject in the Graduate Certificate in Aviation Human Factors, Graduate Diploma in Aviation Human Factors and Master of Technology in Aviation Human Factors.

Aims & Objectives
This subject is designed to be presented in a distance education format. It aims to provide students with a theoretical knowledge base to design and evaluate Crew Resource Management programs.
- To provide students with an advanced understanding of leadership and teamwork by course work coupled with a program of practical team exercises.

Content
The topics studied in detail in this subject will be drawn from the following:
- Crew resource management:
  - Managing risk.
  - Intervention strategies.
  - The development of CRM programs.
Aims & Objectives

The topics studied in detail in this subject will be drawn from the following:

- Human factors course development.
- Organisational safety culture.
- Politics and air safety.
- Safety - maintenance.
- Safety - ground handling.
- Advanced accident investigation.
- Behaviour analysis in aviation.
- Cognitive task analysis.
- Aeronautical decisions - the future.

References


HM604 Advanced Human Factors

12 Credit Points • 1 Semester • Equivalent to 4 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Distance Education, 2 day in house Seminar • Assessment: Assignments, Examinations.

A subject in the Graduate Diploma in Aviation Human Factors and Master of Technology in Aviation Human Factors.

Aims & Objectives

The subject is designed to develop in participants an advanced understanding of the impact of human factors on pilot performance within the operational environment. In particular, participants will examine the political and organisational factors which influence pilot performance and develop the skills necessary to recognise these and respond appropriately.

Content

The topics studied in detail in this subject will be drawn from the following:

- Human factors course development.
- Organisational safety culture.
- Politics and air safety.
- Safety - maintenance.
- Safety - ground handling.
- Advanced accident investigation.
- Behaviour analysis in aviation.
- Cognitive task analysis.
- Aeronautical decisions - the future.
- Disaster management.

References

Recommended reading to be advised.

HM605 Research Design and Methodology

12 Credit Points • 1 Semester • Hawthorn • Prerequisite: Nil • Teaching methods: Distance Education, 2 day in house Seminar • Assessment: Class presentations, Journal, Research Paper.

A subject in the Graduate Diploma in Aviation Human Factors, Master of Technology in Aviation Human Factors, Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

Aims & Objectives

At the end of this subject, students should be able to:

- Plan a research project.
- Undertaken a literature review.
- Apply relevant research methodologies.
- Carry out a statistical analysis of results.
- Build a scientific model.
- Write a research report.
- Write a journal article.
- Use computer software to assist these tasks.

Content

The topics studied in detail in this subject will be drawn from the following:

- Introduction to research:
  - What is research?
  - Scheduling the research project.
  - Research planning and design:
    - Selecting a research problem.
• Defining the research problem.
• Review of related literature.
• Critical evaluation of research.
• Writing the research proposal.
• Computer-aided information retrieval.

Research methodologies:
• Observational methods.
• Experimental methods.
• Experimental design.
• Computer-aided design and analysis of experiments.

Measurement, data analysis and models:
• Measurement error.
• Random variables.
• Estimation.
• Regression analysis.
• Statistical tests.
• Computer-aided statistical analysis.

Models and simulation:
• Types of model.
• Building a model.
• Dimensional considerations.
• Testing models.
• Computer-aided modelling and simulation.

Presenting the results:
• Format.
• Content.
• Style.
• Writing the report.
• Making a presentation.
• Getting published.
• Computer-aided presenting and publishing.

References

HMF606 Human Factors in Specialist Operations

12 Credit Points • 1 Semester • Equivalent to 4 Hours per Week • Hawthorn
Pre requisite: Nil • Teaching methods: Distance Education, 2 day in house Seminar • Assessment: Assignments, Examinations.

A subject in the Graduate Diploma in Aviation Human Factors and Master of Technology in Aviation Human Factors.

Aims & Objectives
The aim of this subject is to provide students with a detailed understanding of the impact of human factors in specialist aviation-oriented operations. More specifically, students will be encouraged to develop the skills necessary to recognise and respond to the human factors requirements associated with specific aviation operations.

Content
The topics studied in detail in this subject will be drawn from the following:
• Single pilot IFR operations.
• Military operations.
• Agricultural operations.
• Emergency medical operations.
• Flight instruction.
• Aviation human factors in different cultures.

References
Recommended reading to be advised.

HMF607 Research Project (Minor)

12.5 Credit Points • 1 Semester • Equivalent to 4 Hours per Week • Hawthorn
Pre requisite: Nil • Teaching methods: Distance Education, 2 day in house Seminar • Assessment: Participation.

A subject in the Graduate Diploma in Aviation Human Factors and Master of Technology in Aviation Human Factors.

Aims & Objectives
This subject is designed to be presented in a distance education format. To apply the skills developed in the subject HMF605 Research Design and Methodology to a practical project task.

Content
Students are expected to select a project from a list prepared by academic staff or students may suggest their own topic based on individual interest, or arising out of their prior or current employment.

Students are expected to carry out the project utilising the methods and procedures developed in the subject HMF605 Research Design and Methodology to conduct literature surveys, investigate probable solutions, prepare designs if applicable, analyse and where appropriate implement and test hypothesis, design processes and products (where a product is the outcome of carrying out the project).

The project may be university based or industry based. It may take various forms in which technology, research and development, experimental work, computer analysis, industry liaison and business acumen vary in relative significance.

References
As recommended by the supervisor to support the student’s project.

HMF608 Major Project

25 Credit Points • 2 Semesters • Equivalent to 8 Hours per Week • Hawthorn
Pre requisite: Nil • Assessment: Project.

A subject in the Master of Technology in Aviation Human Factors.

Aims & Objectives
The Masters degree aims to provide graduates of proved academic ability the skills required for future roles in designing and managing specialised aspects of generic human factor programs, particularly in the aviation industry and the skills necessary to conduct further research in the field.

Content
A research thesis produced under the guidance of a qualified Supervisor.

References
Recommended reading as advised by Supervisor.

HMF611 Air Transportation - General

12.5 Credit Points • 1 Semester • Equivalent to 4 Hours per Week (distance learning plus 1 day of a 4 day in-house seminar) • Distance Education • Pre requisite: Nil • Teaching methods: Distance Education, 1 day in-house seminar • Assessment: Assignments.

A subject in the Graduate Certificate in Air Transportation Management, Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

Aims & Objectives
This subject is designed to be presented in a distance education format. At the conclusion of this subject students should have a good understanding of the broader issues affecting Air Transportation at international and local level for both Government and Operators of services. Additionally, students should gain sufficient insights into wider business issues relating to this highly regulated and complex industry.

Content
The topics studied in detail in this subject will be drawn from the following:
• National Importance of Air Transportation.
• Trade.
• Investment and Employment.
• ICAO, IATA, Chicago Convention, Annexes I to Chicago Convention.
• Freedoms of the Air.
• Transit and Air Service Agreements.
• National Regulation.
• Air Operators Certificates.
• Certification of Aircraft.
• OPS Manuals.
• Legal Documents.
• Noise Requirements.
• Basic Costing - direct and indirect.
• Facilitation and Airport Development.

Textbook

References
To be advised.

**HMF612 Airport Management and Planning**
12.5 Credit Points • 1 Semester • 4 Hours per Week (distance learning plus 1 day of a 4 day in-house seminar) • Distance Education • Prerequisite: Nil • Teaching methods: Distance Education, 1 day in-house Seminar • Assessment: Assignments.

A subject in the Graduate Certificate in Air Transportation Management, Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

**Aims & Objectives**
This subject is designed to be presented in a distance education format. The purpose of this subject is to introduce students to the airport industry, to explain how airports are planned and managed, trends that are occurring in the industry, how airports obtain revenue and where costs lie. Airport design is discussed in detail so that an appreciation can be reached on infrastructure required and standards applied.

**Content**
• Airport ownership.
• Planning procedures.
• Economic Impact.
• Air Transport Forecasting.
• Airport Navigational Aids.
• Financial and Commercial Management.

**Textbook**

**References**
To be advised.

**HMF613 Airlines Operations Management**
12.5 Credit Points • 1 Semester • 4 Hours per Week (distance learning plus 1 day of a 4 day in-house seminar) • Distance Education • Prerequisite: Nil • Teaching methods: Distance Education, 1 day in-house Seminar • Assessment: Assignments.

A subject in the Graduate Certificate in Air Transportation Management, Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

**Aims & Objectives**
Designed to be presented is a distance education format, this subject is aimed at studying various technical, legal and operational issues relating to certification of aircraft and organisations, flight simulation, extended twin operations and operational control. These topics have complex technical, legal and facilitation issues, made more so by the management standards imposed by different states.

**Content**
• Certification of aircraft and organisations/Airworthiness.
• T.O.M. in aviation.
• ETOPS.
• Flight Simulation.
• Operational control.

**References**
Applicable Certificate and Operational Codes.
Bartsch, R., Aviation Law in Australia, LBC Information Services, Sydney, 1996.
ICAO Convention Annexes 8 and 9.
Regulatory Operator Guidance Material.

**HMF614 Aircraft Performance and Facilitation**
12.5 Credit Points • 1 Semester • 4 Hours per Week (distance learning plus 1 day of a 4 day in-house Seminar) • Distance Education • Prerequisite: Nil • Teaching methods: Distance Education, 1 day in-house Seminar • Assessment: Assignments.

A subject in the Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

**Aims & Objectives**
This subject is designed to be presented in a distance education format. It introduces a broad understanding of the performance and cost implications affecting modern aircraft operations whether it be in a short range or critical long range operation. Particular emphasis is placed on important Payload/Range and fuel burn aspects of aircraft operations, together with the importance of retention of aircraft and engine operating efficiencies. Computer generated flight planning and required accuracies obtainable in today’s long range operations are studied.

**Content**
• Long range ops - payload/range/fuel.
• Flight planning.
• Future developments.
• ACARS/FANS/Sat comms/Nav.
• Noise/Pollution.

**References**
To be advised.

**HMF615 Aircraft Selection, Acquisition and Contracts**
12.5 Credit Points • 1 Semester • 4 Hours per Week (distance learning plus 1 day of a 4 day in-house Seminar) • Distance Education • Prerequisite: Nil • Teaching methods: Distance Education, 1 day in-house Seminar • Assessment: Assignments.

A subject in the Graduate Certificate in Air Transportation Management, Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

**Aims & Objectives**
The subject examines the important issues and operations in this critical corporate task. The evaluation and selection task brings together every facet of the business from airframe/engine type matching, retention of performance, fuel burn, maintenance cost guarantees, crew training and endorsements, passenger marketing, through to banking and financing of the project.

**Content**
• Fuel burn/range payload Eng/Airframe combination.
• Route suitabilities.
• Commonality.
• Multiple crew endorsements.
• Fuel burn retention and guarantees.

**References**
To be advised.

**HMF616 Stress and Fatigue Management in Aviation**
12.5 Credit Points • 1 Semester • 4 Hours per Week (distance learning plus 1 day of a 4 day in-house Seminar) • Distance Education • Prerequisite: Nil • Teaching methods: Distance Education, 1 day in-house Seminar • Assessment: Assignments.

A subject in the Graduate Certificate in Air Transportation Management, Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

**Aims & Objectives**
This subject is designed to be presented in a distance education format. The subject examines significant crewing issues that have to be considered in modern operations at domestic operational level or ultra long range operational level or a combination of both. The skills of management have to address the safety issues, crew lifestyle and domestic operational level or ultra long range operational level or a combination of both. The skills of management have to address the safety issues, crew lifestyle and productivity with an overlay of all the legal issues and industrial agreements.

**Content**
• Medical/Fatigue issues.
• Right time limitations.
HMF617 Emergency Planning and Management Part I
12.5 Credit Points • 1 Semester • 4 Hours per Week (distance learning plus 1 day of a 4 day-in-house Seminar) • Distance Education • Prerequisite: Nil • Teaching methods: Distance Education, 1 day-in-house Seminar • Assessment: Assignments.

A subject in the Graduate Certificate in Air Transportation Management, Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

Aims & Objectives
This subject is designed to be presented in a distance education format. Emergency planning and management procedures and practices are examined. This particularly relates to search and rescue and fire services and how they relate to national and international requirements particularly those of C.A.S.A. and I.C.A.O. It covers many different organisations and areas of expertise.

Content
- Emergency, incident, accident planning and management on and off airport.
- Search and rescue and fire services, A/P categorisation.
- International rules and obligations.

References
To be advised.

HMF618 Emergency Planning and Management Part 2
12.5 Credit Points • 1 Semester • 4 Hours per Week (distance learning plus 1 day of a 4 day-in-house Seminar) • Distance Education • Prerequisite: Nil • Teaching methods: Distance Education, 1 day-in-house Seminar • Assessment: Assignments.

A subject in the Graduate Certificate in Air Transportation Management, Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

Aims & Objectives
This subject is designed to be presented in a distance education format. This subject is an extension of HMF617 Emergency Planning and Management Part 1.

Content
- Accident investigation, accident prevention.
- Coronial inquiry.
- Operator obligations, planning, management.
- Contingency, crisis management.

References
To be advised.

HMF619 Aviation Security, Risk Management, Insurance
12.5 Credit Points • 1 Semester • 4 Hours per Week (distance learning plus 1 day of a 4 day-in-house Seminar) • Distance Education • Prerequisite: Nil • Teaching methods: Distance Education, 1 day-in-house Seminar • Assessment: Assignments.

A subject in the Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

Aims & Objectives
This subject is designed to be presented in a distance education format. Aviation security has become an integral part of Air Transportation Management worldwide. It examines ‘Threats’ and systems in place to counter these threats. This will also be related to Australian Aviation Crimes Act 1991 as well as the international position. Risk Management will be covered in the broadest possible way. This involves safety, legislation and cost to minimise risk of Hull loss or damage. Liability risks will be examined in a wide range of situations particularly as it may relate to consequential loss of business.

Content
- Risk/Defence.
- Equipment and Counter Measures.
- Conventions, Jurisdiction, Punishment.
- International and Australian Law.
- Operational and Short-term Risk.
- Medium and short/long-term Risk Management.
- Insurance of assets and income.

References
To be advised.

HMF620 Air Transportation Financial Management
12.5 Credit Points • 1 Semester • 4 Hours per Week (distance learning plus 1 day of a 4 day-in-house Seminar) • Distance Education • Prerequisite: Nil • Teaching methods: Distance Learning • Assessment: Assignments.

A subject in the Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

Aims & Objectives
This subject is designed to be presented in a distance education format. An examination of the importance and complexities of financial management systems in an airline is made, particularly where earnings, contracts and debts are involved. Further, the importance of currencies used in financial transactions, particularly those used other than home country currency, are studied. Coupled with this are appreciating and depreciating trade currencies and changing exchange rates.

Content
- IATA guidelines and international accounting practices/standards.
- Revenue and frequent flyer programming.
- Aircraft asset valuation and depreciation policies/asset and expense disclosure.
- Finance and operating lease information.
- Foreign exchange/contracts earnings and variations.

References
To be advised.

HMF621 Airline Alliances and Contemporary Issues
12.5 Credit Points • 1 Semester • 4 Hours per Week (distance learning plus 1 day of a 4 day-in-house Seminar) • Distance Education • Prerequisite: Nil • Teaching methods: Distance Education, 1 day-in-house Seminar • Assessment: Assignments.

A subject in the Graduate Certificate in Air Transportation Management, Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

Aims & Objectives
This subject is designed to be presented in a distance education format. This subject includes the Bilateral system and Air Service Agreements and how cross ownership of airlines has altered this forever with a large number of potential changes possible. Air Service Agreements have been in place since the formation of I.C.A.O. in 1947. These Air Service Agreements were prominently designed around securing the trade balance in air traffic between national operators on behalf of a particular nation and in the national interest, hence its importance must be examined. Airline deregulation, alliances, code sharing and computer reservation systems are also important developments within the international business environment.

Content
- Alliances - partnerships/commercial agreements.
- National ownership, bilaterals and Air Service Agreements.
- Code sharing.
- Computer Reservation Systems (C.R.S.).

References
To be advised.
HMF622  Aviation Law and Air Transport Issues

12.5 Credit Points • 1 Semester • 4 Hours per Week (distance learning plus 1 day of a 4 day in-house Seminar) • Distance Education • Prerequisite: Nil • Teaching methods: Distance Education, 1 day in-house Seminar • Assessment: Assignments.

A subject in the Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

Aims & Objectives

This subject is designed to be presented in a distance education format. The International Civil Aviation Organisation (I.C.A.O.) and its history are examined together with Australian and International involvement in the organisation. The Chicago Convention (1944) and the concept of sovereignty in airspace as well as the Warsaw Convention (1929) and related Acts governing the liability of international carriers and cargo are very important elements to be considered. The Australian airlines system, the approval of airfares, both nationally and internationally as well as national competition laws are also elements studied. The Australian Aviation Regulations and legal system together with pilot/crew responsibilities and liabilities are also included.

Content

• International air law and its origins.
• Current issues in air transport law.
• Australian Civil Aviation Act/Government policies.

References

To be advised.

HMF623  Financial Management

12.5 Credit Points • 1 Semester • 4 Hours per Week (distance learning plus 1 day of a 4 day in-house Seminar) • Distance Education • Prerequisite: Nil • Teaching methods: Distance Education, 1 day in-house Seminar • Assessment: Assignments.

A subject in the Graduate Diploma in Air Transportation Management and Master of Technology in Air Transportation Management.

Aims & Objectives

This subject is designed to be presented in a distance education format. This subject relates to those matters outlined in the content and students will be expected to have a very good understanding of each topic.

Content

• Balance sheet understanding.
• Revenue/cash flow/costs.
• Profit and loss.
• Budgeting.
• Asset management and depreciation.
• Stock control.

References

To be advised.

HMM634  Non-Contact Inspection and Measurement

12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment: Assignments and Exam.

A subject in the Graduate Certificate, Graduate Diploma and Master of Engineering (Robotics and Automation).

Aims & Objectives

After completion of this subject students should be able to:

• Appreciate the techniques available for non-contact inspection and measurement in manufacturing.
• Understand and describe the fundamentals of optical systems applicable non-contact inspection and measurement.
• Understand and apply computer vision and digital image processing techniques to non-contact inspection and measurement.

Content

Introduction to Non-Contact Inspection and Measurement:

• Fundamentals of measurement.
• Uncertainty of measurement.
• Ultrasonic.

Recommendations

- Computer vision.
- Laser-based.
- Electromagnetic.
- Interferometry.
- Photogrammetric.
- Digital Image Processing:
  • Binary and grey scale.
  • Image acquisition.
  • Image file structures.
  • Algorithms for quantitative and qualitative analysis of images.
  • Edge detection.
  • Template matching.
- Computer Vision Systems:
  • CCD cameras.
  • Spot, circular, line sensors.
  • Area sensors.
  • Camera lenses.
  • Lighting.
  • Framegrabbers.
  • Single, stereo and multiple camera techniques.
  • Calibration methods for intrinsic and extrinsic parameters.
- Fundamentals of Optical Systems:
  • Human vision.
  • Optical parameters.
  • Types and uses of lenses.
  • Lens aberrations and lens distortion models.
  • Perspective projections and images.
  • Camera mathematical models.
- Laser-based Measurement Systems:
  • Triangulation techniques.
  • Light stripe methods.
  • Light spot method.
- Applications to the Manufacturing Industry:
  • Inspection.
  • Measurement.
  • Ultrasonic.
  • Robot vision.
  • Light-based surface inspection.
- Emerging Technologies:
  • Smart cameras.
  • Spectroscopy.

Recommended Reading

HMM635  Robot Systems
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment: Assignments and Exam.
A subject in the Graduate Diploma and Master of Engineering (Robotics and Automation).
Aims & Objectives
To provide students with knowledge for the design and operation of robot systems for manufacturing applications.
Content
Robot programming:
• Teach and offline programming.
• Programming languages.
• Future directions.
Sensor systems:
• Internal/external sensors.
• Conditioning sensor output.
• Analysis of sensor data.
• Sensing hierarchy.
• Robot vision.
Interfacing for Robot Systems:
• Program control for interfacing.
• Interfacing digital/analog sensor systems.
End Effectors and End of Arm Tooling:
• Basic considerations.
• Gripper design.
• Mechanical/vacuum/magnetic grippers.
• Tooling.
Robot Cell Design:
• Robot cell layout.
• Multiple robot operation.
• Workcell control.
Robot Applications in Manufacturing:
• Material handling.
• Spot welding.
• Spray painting.
• Arc welding, etc.
Robot Implementation Principles and Issues:
• Safety/Requirements in robotic installations.
• Training.
• Maintenance.
• Human factors.
Financial Analysis of Robot Installations:
• Discount cash flow method.
• Sensitivity analysis.
Recommended Reading

HMM637  Project
50 Credit Points • One Semester • Hawthorn • Prerequisite: Nil • Teaching methods: Supervised private research, field work and consultation. • Assessment: Project/Thesis 100%.
A subject in the Master of Engineering (Robotics and Automation).
Aims & Objectives
To provide an opportunity for students to develop analytical, research and thesis writing skills while exploring a topic in depth.
Content
Students will work on an approved project under staff supervision. Projects will require a literature survey and a theoretical or experimental investigation. Where appropriate, the projects should be industry sponsored and have direct relevance to the student’s area of employment.
There will be a requirement for formal monthly reporting by the candidates, both oral and written throughout the project. Failure to meet satisfactory standards of progress may preclude final submission for the Masters degree. Students will present their research results to staff and students in a school seminar or equivalent.
Recommended Reading
As appropriate to be prescribed by project supervisor.

HMM649  Fundamentals of Industrial Engineering
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment: Examination, Project, Assignments.
A subject in the Graduate Certificate, Graduate Diploma and Master of Engineering in Industrial Engineering.
Aims & Objectives
To provide an overview of the evolution of Industrial Engineering as an effective and dynamic discipline, the tools, techniques and their applications, role of IEs and their impact on productivity of organisations; future trends.
Content
Statistical and Mathematical Models:
• Review of probability and statistics.
• Estimation and test of hypothesis.
• Regression.
• Design of experiments.
• Variance analysis.
• Fuzzy logic and applications.
• Neural Networks and applications.
Traditional and Modern IEs:
• Review.
• Evolution of concepts.
• Review of major schools of thought and their consequences.
• Trends in manufacturing and business.
• Effect of technology change.
• Computerisation.
• Environmental issues, competition.
• Role of IEs in organisations.
• Team building and facilitation.
• International activities.
Methods Engineering and Work Measurement:
• Process analysis.
• Data collection.
• Measuring process efficiency.
• Waste.
• Process improvement, training, standardisation.
• Cellular approach in non-manufacturing fields.
• Standardisation.
• Concepts.
• Human factors.
• Techniques.
• Computer based systems.

Environmental factors:
• Health and safety issues and applications.
• Occupational health regulations.
• Hazardous materials and activities.
• Fire protection.
• Training/education.
• Establishing systems.
• Workplace conditions and standards, ergonomics, risk analysis.

Cost estimation:
• Sources, cost modelling.
• Accounting.
• Statistical and mathematical methods in cost estimation.
• One of a kind product costing.
• Project costing.
• Financial analysis.

Scheduling:
• Types.
• Modelling.
• Measuring effectiveness.
• Examples from personnel.
• Shop floor, etc.

Project management:
• Nature of projects.
• Phases of team building.
• Preparation.
• Scheduling.
• Control and closing.

Recommended Reading

HMM650 Process Improvement and Quality

12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment: Examination, Project, Assignment.

A subject in the Graduate Certificate, Graduate Diploma and Master of Engineering (Industrial Engineering) and (Industrial Information Technology).

Aims & Objectives
To provide a thorough understanding of the meaning, measurement and management of productivity and quality issues and ways of improving, establishing implementation and standardisation.

Content
Productivity:
• Concepts, definition, history, impact on management, employees, structure, customer supplies models, teams, culture, productivity indices.
• Basic approaches, 5Ss, 20 keys model, small group activities.
• Performance measurement, systematic approaches, models, types of measures, key performance measures (KPM), tools and implementations.
• Visual Control, visual systems designs, development and implementation.
• Mathematical models for productivity measures, data envelopment analysis.
• Benchmarking concepts, approaches, sources of data, government assistance, best practice.

Quality:
• Understanding quality, cost of quality, internal/external customers, impact on culture, organisational views, training.

HMM655 Decision Analysis

12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Examination, Project.

A subject in the Graduate Diploma and Master of Engineering (Robotics and Automation), (Industrial Engineering) and (Industrial Information Technology).

Aims & Objectives
To introduce the decision making process and techniques used to model variety of decision scenarios of quantitative and qualitative nature and to apply them to real industry based engineering problems using appropriate software packages.

Content
• Concepts in technology management leading to strategic decisions.
• Nature, complexity, trends and developments in the decision making process.
• Cash flow modelling.
• NPV: IRR and other evaluation methods.

Uncertainty:
• Nature and its measurement by probability and utility functions.
• Uncertainty and qualitative decision methods and applications: decision trees, influence diagrams, computer based systems.

Subjective factors:
• Safety.
• Government regulations.
• Environmental aspects.
• Modelling approaches.
• Analytic Hierarchy Process (AHP).
• Goal programming.

Investment problems:
• Share market.
• Portfolio analysis.
• Group decisions:
  • Managerial and corporate level group decisions, tools and techniques.

Decision Support Systems:
• Concepts.
• Packages.
• Programming environments.
• Cases.

Case studies:
• Several case studies and projects will be discussed and conducted.

Recommended Reading

Expert choice Brief Manual and papers.
HMM656 Systems Optimisation and Reliability

12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Examination, Project.

A subject in the Graduate Certificate, Graduate Diploma and Master of Engineering (Industrial Engineering).

Aims & Objectives
To provide knowledge and skill in modelling and optimisation of physical/conceptual systems and ways of assessing and improving the reliability of systems.

Content
Modelling:
- Mathematical models, types, complexities.
- Formulation, validation, solution.
- Implementation.
- Solution spaces.
- Overview of algorithms, types and complexities.

Deterministic Model:
- Nature, type.
- Linear models, cases in several areas.
- Solution by computer.
- Integer models.
- Non-linear models.
- Optimality conditions.
- Solution approaches (analytical, numerical approaches, modern approaches, search methods).

Probabilistic Models:
- Review of probability theory.
- Queuing models.
- Markov chain models.
- General stochastic models.
- Renewal theory.

Reliability:
- Data modelling.
- Component reliability.
- System reliability.
- Reliability analysis and application in design and maintenance.
- Reliability centred maintenance.
- Models and approaches to reliability.
- Failure mode effect analysis (FMECA).
- Replacement analysis.

Recommended Reading

HMM657 Computing for Industrial Engineering

12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: CBT (or equivalent) on-line training in C++ • Teaching methods: Regular meetings with subject convenor • Assessment: Project 50%, Exam 50%.

A subject in the Graduate Certificate, Graduate Diploma and Master of Engineering (Industrial Engineering).

Aims & Objectives
To undertake a software based development project, preferably industry-based, in a field of industrial engineering.

Content
A project, normally issued during orientation week, which needs to be software based and exemplifying a typical application that relates to industrial engineering methods.

Students should normally commence the project work as soon as they have developed sufficient programming skills, and should submit the final project report and software by the last week of this module.

Lectures will focus on the software development techniques and highlights of database technology, programming style and current trends.

HMM658 Design of Physical Facilities

12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Examination, Project.

A subject in the Graduate Diploma and Master of Engineering (Industrial Engineering).

Aims & Objectives
To provide knowledge in design and implementation of logistic issues including material handling, warehouses, distribution systems, layout design, services and utilities, procurement.

Content
Facilities Design:
- Understanding concepts.
- Location problem and models.
- Cells, structure, benefits, group technology and cell formation for operations (manufacturing and business focus).
- Data and algorithms.
- Software.
- Nature of layout problems.
- Effects on operations and productivity.
- Review and comparison of different approaches.
- Mathematical models and computer routines.
- Complexity of integration.

Material Handling Systems:
- Overview of material handling systems.
- Manual, mechanical, and automated systems.
- Automated guided vehicles (AGVs).
- Conveyors, robots and buffers.
- Feasibility, suitability and economic considerations.

Warehousing:
- Nature of inventory, costs, inventory models.
- Warehouse operations.
- Warehouse systems.
- Automated storage and retrieval systems (AS/RS).
- Warehouse information systems.
- Integration with the rest of the company.

Distribution Systems:
- Internal systems.
- External systems.
- Procurement.
- Supplier management.
- Information systems.
- Fleet management.
- Customer service and support.

Packaging:
- Types.
- Specifications.
- Physical considerations.
- Regulations.
- Marketing and financial aspects.
- Methods.
- Equipment.
- Palletising.
- Computerisation.
Recommended Reading
Sethi, INITIAL., Facility Planning and Material Handling, 1995.
Springer-Verlag, 1989.

HMM660 Project
50 Credit Points • Hawthorn • Prerequisite: Nil • Assessment: Progress Reports, Final Report, Oral Presentation.
A subject in the Master of Business Administration.
Aims & Objectives
To provide an opportunity for students to develop analytical, research and thesis writing skills while exploring a topic in depth.

Content
Students will work on an approved project under staff supervision. Projects will require a literature survey and a theoretical or experimental investigation. Wherever possible projects will be industry based and/or sponsored and directly relevant to the student’s area of interest or employment. The investigative work carried out on the project, results and conclusions will be presented as a written report in accordance with approved guidelines. An oral presentation of the project work (to a selected audience) will also be required.

Recommended Reading
As appropriate to be prescribed by project supervisor.

HMM661 Project
50 Credit Points • One semester • Hawthorn • Prerequisite: All Graduate Diploma of Engineering subjects, in related specialisation. • Teaching methods: Minor Thesis • Assessment: Project/Thesis 100%.
Aims & Objectives
To provide an opportunity for students to develop analytical, research and thesis writing skills while exploring a topic in depth.

Content
Students will work on an approved project under staff supervision. Projects will require a literature survey and a theoretical or experimental investigation. Where appropriate, the projects should be industry sponsored and have direct relevance to the student’s area of employment.
There will be a requirement for formal monthly reporting by the candidates, both oral and written throughout the project. Failure to meet satisfactory standards of progress may preclude final submission for the Masters degree. Students will present their research results to staff and students in a school seminar or equivalent. The thesis will be examined by at least two examiners.

Recommended Reading
As appropriate to be prescribed by the project supervisor.

HMM662 Computer Aided Design
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Examinations, Project.
A subject in the Graduate Certificate (CAD/CAM), Graduate Diploma (CIM), Master of Engineering (CIM), Graduate Certificate (Microsystem Technology), Graduate Diploma (Microsystem Technology) and Master of Engineering (Microsystem Technology).
Aims & Objectives
• To provide students with the opportunity to learn the fundamentals of CAD.
• To provide a degree of competency in using a CAD system.
• To enable to work on a realistic CAD Project.

Content
CAD Hardware and Software:
• Elements of a CAD system.
• Workstation environment.
• Graphic processors.

References
Sethi, INITIAL., Facility Planning and Material Handling, 1995.
Springer-Verlag, 1989.
• Inventory status files.
• Mechanism.
• Changes.
• Reports.
• Simulation.
• Other peripherals.
• Process units.
• Proven paths for implementation.
• Just-In-Time (JIT) production philosophy, principles, techniques.
• Mixed flow models.
• Cellular production.
• Lead time reduction.
• Kanban systems.
• Optimised Production Technology (OPT) philosophy, bottlenecks, principles, developments.
• Operations planning and scheduling as applied to a variety of scenarios.

Forecasting:
• Techniques for casual models and time series analysis.
• Box-Jenkins approach.

Enterprise Resource Management Systems:
• ERP and applications in sales.
• Production planning and control.
• Inventory, distribution, financials, human resources.
• Project management and maintenance.

Maintenance Management:
• Operations and maintenance.
• Preventative and predictive - total productive maintenance.
• Computerised systems.

Recommended Reading

HMM664 Advanced Robotics
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment:
Assignments & Examination.

A subject in the Graduate Certificate (CAD/CAM), (Robotics and Automation), Graduate Diploma (CIM), (Robotics and Automation) and Master of Engineering (CIM), (Robotics and Automation).

Aims & Objectives
To provide students with an understanding of the design, operation and control of robots.

Content
• Low Cost Automation: Logic circuit design, pneumatic and electrohydraulic circuit design, programmable logic controller (PLC) based circuit design.
• Introduction to Robotics: Definitions, Classifications, Characteristics.
• Mechanical Design of Manipulators: Gears, linkages, belt drives, v-belts, harmonic drives, hydraulic drives.
• Robot Arm Kinematics: Direct Kinematic problem, inverse kinematic problem, trajectory planning.
• Robot Dynamics: Static/dynamic forces, lagrangian-euler formulation, generalised equations of motion.
• Mobile Robots: Kinematic modelling of wheeled robots, models of walking, navigation.
• Service and Medical Robots: Introduction, sensing and control requirements, future directions.
• Tele-operation and Robotics: Classification of tele-operator systems, tele-operation with open loop control.

Recommended Reading

HMM665 Numerical Control Systems
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment:
Assignment, Project work and Examination.

A subject in the Graduate Certificate (CAD/CAM), (Robotics and Automation), Graduate Diploma (CIM), (Robotics and Automation) and Master of Engineering (CIM), (Robotics and Automation).

Aims & Objectives
To provide a sound appreciation of the nature, operation, programming and application of Numerical Control - both as a particular mode of control in manufacturing, and in terms of its relationship with other approaches to automation including FMS and rapid product development.

Content
N.C. Systems:
• Rationale.
• The nature of Numerical Control and its relationships to other forms of automation.
• Distinction between generic NC, CNC, DNC, DDNC.
• Components and characteristics of devices operated under NC which set them apart from other systems - structure of NC controllers, motors and feedback devices.
• NC machine tools, modern features and development trends.

N.C. Programming Methods:
• Characteristics, relative advantages and limitations of the various approaches to NC part programming (manual, computer-assisted, interactive-graphic, CAD/NC).
• Programming for families of parts and parametric programming.

N.C. Applications:
• Appropriate application areas, flexibility and the context in which the advantages of NC can be exploited in relation to manual and conventional automation systems.

Flexible Manufacturing Systems:
• Technology view of FMS.
• FMS system components.
• Process centres.
• Material handling.
• FMS software overview.
• Adaptive control.

Rapid Product Development:
• Introduction to rapid product development.
• Commercially available systems.
• Processes under development.
• Applications of rapid prototyping.
• Technical aspects: STL file, slicing, RP materials.
• Conversion Technologies.
• Reverse engineering.
• Development of soft tooling.
• Rapid Tooling.
• Metal spray techniques, EDM tools.
• CNC versus RP.

Recommended Reading

HMM666  Intelligent Manufacturing Systems
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment: Projects and Examinations.
A subject in the Master of Engineering (CIM) and Graduate Diploma (CIM).
Aims & Objectives
To contribute to better understanding of developments and applications of intelligent manufacturing systems.
Content
Computer Aspects and Knowledge Based Systems:
• Database technology.
• Networking.
• Benefits and problems.
• Knowledge based systems.
• Overview of the concepts, approaches.
Flexible Manufacturing Systems and CIM:
• Concept of flexibility, benefits, structures.
• Flexible Assembly Systems.
• Process planning for FAS.
• Tool management and tool storage policies.
• The CIM philosophy.
• Benefits, structure, trends and problems.
Concurrent Engineering:
• Product development life cycle.
• Requirements for effective concurrent engineering.
• Plans, key linkages and information flow for CE.
Holonic Manufacturing Systems and Agile Competition:
• Architecture and technology for open, distributed, intelligent, autonomous, co-operative (holonic) systems.
• Introduction to agility and its conceptual framework.
• Agile manufacturing and change management.
• Agile manufacturing.
• Enterprise design.
Dynamic Scheduling:
• Benefits.
• Data requirement.
• Methods.
Laser Applications in Manufacturing:
• Micro-machining with lasers, Excimer laser, Nd:YAG lasers.
• Applications in surface treatment, rapid tooling.

Recommended Reading

HMM667  Computer Control and Sensing
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment: Project and Examination.
A subject in the Graduate Diploma (CIM), Master of Engineering (CIM), (Robotics and Automation), Graduate Diploma (Microsystem Technology) and Master of Engineering in Microsystem Technology.
Aims & Objectives
To provide an understanding of computer control and monitoring techniques, including networks as applied to advanced manufacturing systems. To examine the architecture of modern computers and the interaction between computers and sensors for industrial control and monitoring.
Content
Computer Architecture - Hardware and Software Elements:
• Boolean logic.
• Basic digital circuits for control.
• Flip-flops, counters, registers, state-machines.
• Memory devices, programmable array logic (PAL).
• Microprocessors, digital signal processors (DSPs).
• Address and data bus structures.
• Memory mapping.
• Micro-code.
• Machine code.
• Assembly languages.
• Memory management (Paging).
• Operating systems.
• Assemblers.
Interfacing - Basic Stages in the Closed Loop:
• Transformation.
• Isolation.
• Protection.
• Conversion to and from analog voltage forms (A/D and D/A conversion).
• Signal Conditioning.
Interfacing Elements - Analog Circuit Components:
• Diodes and Zener Diodes.
• BJTs and FETS.
• Operational amplifiers.
• Thyristors and rectifiers.
• External circuit characteristics (Input and output impedance).
Interfacing Elements - Basic Transducers and Sensors:
• Strain Gauges.
• Thermocouples.
• Encoders.
• Resolvers.
• Limit-switches.
• Opto-couplers.
• Selection and performance criteria.
Computer Control Using Networks:
• Basic computer to computer interaction.
• Point to point links.
• Local area networks and real-time networking for control.
Computer Control through Hardware Interfacing:
• The complete control loop, following signals through from feedback devices to computer hardware and software stages and on to computer generated control outputs.

Recommended Reading

HMM668  Expert Systems, Simulation and Modelling
12.5 Credit Points • 5 Weeks • Hawthorn • Prerequisite: Nil • Assessment: Assignments and Examination.
A subject in the Graduate Diploma in Engineering (CIM, Industrial Engineering) and the Master of Engineering (CIM, Industrial Engineering).
Aims & Objectives
To provide an understanding of the characteristics and uses of modelling, simulation and expert systems technology particularly in relation to improving the performance of manufacturing operations.

Content
Modelling:
- Modelling process.
- Benefits.
- Problems of solution and implementation.
- Analytical and simulation solutions.
- Application areas.
- Data.
- Expertise and equipment required.
- Modelling waiting lines.
- Analytic solutions.
- Limitations and need for simulation.
- Perturbation analysis.

Fuzzy Logic:
- Concepts.
- Fuzzy numbers.
- Operators.
- Models.
- Applications.

Neural Networks:
- Concepts, case based reasoning introduction.
- Comparison with fuzzy logic.
- Neural networks.
- Model building.
- Tools.
- Applications.

Case Based Reasoning:
- Case retrieval systems.
- Nearest neighbour retrieval systems.
- Inductive retrieval systems.
- Adaptation.
- Classification of CBR applications.

Genetic Algorithms and Expert Systems:
- Vocabulary.
- Structure of genetic algorithms.
- Operation of genetic algorithms.
- Encoding the problem in GA.
- GSV's conventional optimisation procedures.

Simulation Methodology and Packages:
- High level languages.
- Event, process and activity driven systems.
- Scope, objectives.
- Statistical data analysis.
- Modelling building procedure.
- Model validation/verification.
- Interpretation and implementation.
- Introduction to Siman, Mast and special purpose simulators.
- Introduction to Expert Systems:
  - Description of input/output/knowledge base.
  - Inference engine.
  - Comparison with conventional computer programs.
  - Production rules, frames.
  - Forward chaining, backward chaining.

Problem Solving in Expert Systems:
- Knowledge acquisition.
- Task classification.
- Incorporating heuristics.
- Survey of applications.
- High level languages.
- Expert system 'shells'.
- Commercial packages.
- Matching tools to tasks.

Recommended Reading

HMM669 Computer Modelling and FEA
12.5 Credit Points  5 Weeks  Hawthorn  Prerequisite: Nil  Assessment:
Assignments, Project and Examination.

Aims & Objectives
To provide a working knowledge of advanced computer aided design techniques, modelling, analysis and its applications.

Content
Finite Element Analysis:
- Fundamentals of FEA.
- 2D and 3D elements.
- Modelling technique.
- Mesh generation.
- Linear and non-linear static analysis.
- Dynamic analysis.

Kinematic Modelling:
- Elements of kinematic and robotics models.
- Modelling techniques.
- Modelling of mechanisms and robot cells, applications.

NC Machining of CAD Models:
- Steps in producing part programs from a CAD system.
- Modelling.
- Machining strategy.
- Tool path generation.
- APT file creation.
- Post processing.
- Verification of part programs.

Space Curves and Surfaces:
- Theory of curves and surfaces used in CAD systems.
- Parametric representation of curves and surfaces.
- Bezier curves and surfaces, patch surface.
- NURBS curves and surfaces, relationship to CAD.

Parametric Design:
- Introduction to parametric design and its applications.
- Parametric modelling techniques.
- Use of high level languages and CAD.
- Examples of parametric modelling software.

Form Feature Design and Solid Modelling:
- Design by features.
- Creating form features.
- Feature extraction.
- Libraries, applications, modelling.
- Interference checking for assembly.
Virtual Reality:
- Introduction.
- Design and prototyping.

HMM720 Risk Perception and Analysis
12.5 Credit Points • 1 Semester • 48 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Classroom Lectures and Tutorials • Assessment: Examination 40%, Assessed work 60%.
A subject in the Graduate Certificate in Risk Management, Graduate Diploma in Risk Management, Master of Technology in Risk Management, Bachelor of Technology (Aviation, Air Transportation Management).

Aims & Objectives
- To provide an understanding of the philosophy and terminology concerning the idea of risk.
- To provide an understanding of the nature of human perception and experience of risk.
- To recognise situations where potential loss occurs and how humans respond to these situations.
- To understand the general principles and practical techniques of risk identification, assessment, analysis and control.

Content
Risk terminology and system modelling:
- Nature and origin of uncertainty.
- Historical overview of risk, phenomenology of risk and application of the scientific method.
- Risk measurement, risk diagrams and analysis of risk related data, recording of data.
- Concepts of causation, objectivity and subjectivity related to risk occurrence.
- Types of risk: voluntary and involuntary.

Human perception of risk:
- Human response to uncertainty and risk, terminology and concepts.
- Social cognition, perception, personal and social attribution with regard to risk, attitudes and attitude change, motivation, theory of cognitive dissonance.

Risk analysis and use of modelling:
- Application of risk estimation, psychological, energy damage and generalised time sequence models to occurrence investigation.

Risk estimation and loss rate concept:
- Sources of risk data - probability, failure and reliability.
- Fault tree and event trees analysis.
- Techniques and applications.
- Failure modes and effects analysis and HAZOPS (Hazard and Operability Studies).
- Priority Planning Matrixes.

References
Selected papers and course notes.

HMM721 Risk Management Principles
12.5 Credit Points • 1 Semester full-time or 2 Semesters part-time • 24 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Case Studies and Tutorials • Assessment: Assignments, Examinations.
A subject in the Graduate Certificate in Risk Management, Graduate Diploma in Risk Management, Master of Technology in Risk Management.

Aims & Objectives
Students who have passed this subject will possess:
- An awareness of the legal structures and processes within Australia.
- An introductory understanding of health and safety law and related legal obligations.

Content
- Risk management systems: organisational and national structures, crisis management systems, and assessment of organisation effectiveness, functional management.
- Concepts and definitions of risk control, organisational and risk management objectives, risk evaluation and decision analysis techniques, the balance between risk, benefits and costs.
- Overview of risk management models: process model, assets, vulnerability, exposure and threats model, functions and activities model, prevention of property and production loss.
- Personal and small group risk evaluation principles.
- Forecasting techniques and trend diagrams.

References
Readings in Risk Management, Swinburne University of Technology, (Current Edition).

HMM722 Quantitative Risk and Modelling
12.5 Credit Points • 1 Semester full-time or 2 Semesters part-time • 24 Hours • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Tutorials and Workshops • Assessment: Assignments, Examinations.
A subject in the Graduate Certificate in Risk Management, Graduate Diploma in Risk Management, Master of Technology in Risk Management.

Aims & Objectives
Students who have passed this subject will possess:
- An introductory understanding about the nature of statistical methods and skill in application of the various methods.
- An ability to represent risk using standard measurement techniques.
- Competence in use of electronic spreadsheets to analyse risk.

Content
Descriptive statistics:
- Nature of variables, frequency, distribution, mean, median, mode, normal curve, variance, standard deviation.
- Exploratory data analysis, data distribution and specification, ranges and interpretation.
- Distributed data representation, data plots as histograms, polygons and relative frequency histograms.

References
Readings in Risk Management, Swinburne University of Technology, (Current Edition).
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- Significance testing, null hypothesis, comparison of data sets. Interpretation of distributed data, samples and populations, confidence levels, variance analysis, chi-square testing.
- Applications to risk management.

Probability:
- Basic theory, probability of success and failure, addition and multiplication theorems, permutations and combinations.
- Exponential distributions, reliability, reliability function, MTBF, failure rate, failure analysis, characteristics of exponential distributions.
- Systems reliability, series and parallel reliability, mission profile, failure patterns, complete system reliability function.
- Weibull distribution, analysis of unobserved reliability data, use of Weibull graph, interpretation of results.
- Analysis of censored data.
- Binomial distribution, characteristics of binomial random variable, binomial distribution, general case.
- Poisson distribution, Characteristics of Poisson random variable, Poisson distribution, general case, relationships to the binomial distribution.
- Applications to risk management.
- Use of electronic spreadsheets and simulation software to measure and analyse risk.

References

HMM723 Financial Risk Management
12.5 Credit Points • 1 Semester full-time or 2 Semesters part-time • 24 Hours
Hawthorn • Prerequisite: Nil • Teaching methods: Lectures, Tutorials and Workshops • Assessment: Assignments, Examinations.
A subject in the Graduate Certificate in Risk Management, Graduate Diploma in Risk Management, Master of Technology in Risk Management.

Aims & Objectives
Students who have passed this subject will possess:
- A practical understanding of how risk may be effectively managed in terms of financial constraints and how this relates to various financial structures within the country.
- A general overview of the insurance industry at present.
- Understanding of risk transfer techniques, including re-insurance.

Content
- Types of financial risk.
- Financial instruments and their use.
- The timing of financial risk.
- Time-money relationships.
- Project financing and cash flows.
- Tax effects associated with financial risk.
- Cost benefit analysis principles and techniques.
- Forecasting techniques.
- Financial risk minimisation principles.
- Risk Funding.
- The history and role of insurance.
- Principles of insurance: contents, claims estimates, premium determination, types of premiums, re-insurance, the role of brokers.
- Liability insurance concerning products.
- Employers, employees and the public.
- Professional indemnity: contract types and administration.
- Catastrophic loss insurance: contract types and administration.
- Captive Insurance Organisations.
- Self Insurers.

- Bank Guarantees.
- Determination of levels insurance of cover.
- Deductibles.
- Self insurance.
- Limits of cover.
- Perils.
- Public liability.
- Business interruptions and construction exclusions.
- Processes of decision making to determine the need and level of forms of risk cover.

References

HMM724 Risk Management Systems
12.5 Credit Points • 1 Semester full-time or 2 Semesters part-time • 24 Hours minimum • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures and Tutorials • Assessment: Assignments, Examinations.
A subject in the Graduate Diploma in Risk Management and Master of Technology in Risk Management.

Aims & Objectives
Students who have passed this subject will possess:
- An understanding of the terminology and principles influencing the practice of risk management in practical areas of risk management.
- Skills in the practical applications of management functions arising from and the prevention of loss to organisations.

Content
- Loss forecasting and estimation.
- The structure of loss data management systems.
- Data interpretation and reporting.
- Review of risk identification principles: data surveys, computerised data bases.
- Management program audit and assessment processes.
- Information systems.
- Design of management systems: control strategies, financing and reporting.
- Management practice applied to health and safety.
- Historical precepts of injury control.
- Application of Victorian legislation: acts, regulations and codes.
- Health and safety program principles, design of programs evaluation techniques.
- Rehabilitation and claims management.
- Organisational design for effective implementation and continuation of H&S programs: roles, responsibilities, communication processes, program audits.
- Public health and safety program design and implementation.
- Management practices applied to plant and property.
- Sources of information: risk and control information.
- Implementation and evaluation of control measures and strategies for buildings, machinery and equipment.
- Risk assessment for public and product risk: methods, criteria, and program elements, incident reporting systems, design and disposal screening.
- Contingency and emergency planning, damage control strategies.
- Highly Protected Risks and their management.
- Management of emergency conditions and recovery processes.

Resource management:
- Environmental requirements.
- Emergency and evacuation procedures.
- Security concerning physical facilities.
- Document and other security requirements.

References

Swinburne University of Technology | Higher Education Handbook 2002
Aims & Objectives

Students who have passed this subject will possess:

- An understanding of scientific principles concerning the field of ergonomics.
- Be able to apply these principles in the analysis of a typical workplace environment.
- An understanding of the risks associated with occupational hygiene factors.
- Awareness of the control methods, including use of material safety data sheets.

Content

Ergonomic principles applied to:

- Physical environment influences on human performance due to noise, lighting and vibration.
- Cognitive psychology: concepts, displays and controls, error and reliability.
- Anthropometry, human anatomy and physiology, workplace design requirements.
- Injury causation due to material handling, slips, trips and falls.
- Thermal stress and comfort.
- Physical, psychological and social stressors.
- Human element factors in risk management programs, assessment and audit processes.

Investigation of occupational hygiene factors, invasive mechanisms and methods of control, measure and reduce the risk of damage to recipients. This will include:

- Toxicology, dose - response, TLV's applied to chemicals, noise, vibration, radiation risks.
- Chemical hazards and their effects, medical monitoring programs.
- Respiratory protection, equipment types, ventilation requirements for extraction and dilution.
- Biological hazards, legionnaire's disease, zoonoses, AIDS, Hepititis C, bacterial infections.
- Technology and practices in the safe operation and use of hazardous chemicals, including storage, handling and transport.
- Physical protection against natural disasters, fire, flood, windstorm, earthquake.
- Building services requirements: energy management (heating & cooling), fire protection, repairs and improvements.

References


HMM727 Risk Research and Project

12.5 Credit Points • 1 Semester full-time or 2 Semesters part-time • 24 Hours minimum • Hawthorn • Prerequisite: Nil • Teaching methods: Lectures and Practical Work • Assessment: Project Report, Seminar.

A subject in the Graduate Diploma in Risk Management, Master of Technology in Risk Management.

Aims & Objectives

Students who have passed this subject will possess:

- Skills and techniques for conducting research project in the field of risk management.
- Project management skills.
- Experience in carrying out a research project in the field of risk management and reporting on the findings.

Content

- Research methodology and orientation, Resource gathering techniques, data acquisition and analysis.
- Use of library as resource centre.
- Research communication techniques.
- Project management processes and techniques.
- Execution of project to achieve a practical result.
HMMP911 Risk Dissertation
12.5 Credit Points • 1 Semester full-time or 2 Semesters part-time • 70 Hours minimum • Hawthorn • Prerequisite: Nil • Teaching methods: Self directed work under staff supervision. • Assessment: Continuous.
A subject in the Master of Technology in Risk Management.

Aims & Objectives
Students who have passed this subject will possess:
• Development of independent research and reporting skills.
• Skills in applying the subject matter concerning risk in seeking out solutions to a defined practical loss prevention problem.
• Mastery in a specific risk management related area.

Content
Students will work on an approved project under Swinburne staff supervision. External supervisors may, where appropriate, also be appointed. The project will involve the application of research techniques, including literature search and experimental investigation. Where possible the selection of topic should be industry based and of relevance to the student in their area of employment. The investigated work, results and conclusions must be presented as a written dissertation in accordance with approved guidelines. Oral presentations and other written material suitable for publication and presentation will also be required.

References

HMMP501 Group Multimedia Project 1
25 Credit Points • 12 Weeks • 12 Hours per Week • Prahran • Prerequisite: Nil • Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques. • Assessment: Progressive evaluation of work through each semester by group discussion and evaluation. A folio of work and preliminary sequenced work will be presented as workbook/journal and digital files. These will be submitted at the end of each semester. Submission of minor thesis (2500 words).
A subject in the Graduate Certificate of Design (Multimedia Design); Graduate Diploma of Design (Multimedia Design); and Master of Design (Multimedia Design)

Aims & Objectives
• To develop an understanding of the practice of design and narrative structure in multimedia design methods and technology.
• To introduce the fundamental aspects of the content, function and context of visual communication within a multimedia project.

Content
This subject consists of a major group project through which students will investigate aspects of design and sequence for multimedia outcomes. This will be a group determined project. The project will develop the special principles of design that help the design process in various media. Projects and workbooks will describe the design strategies that inform the practice of multimedia design. Presentations will provide an understanding of the structural, sequencing and spatial organisation that describes aspects of visual communication. Investigations will continue into audio, video, animation, filmic imagery and 3D modelling requirements for digital delivery.

As part of this subject students will submit a minor thesis that will explore issues relating to their major project. Issues such as contextuality, technology delivery and content development and reasoning will be raised and discussed.

References

HMMP601 Group Multimedia Project 3
25 Credit Points • 12 Weeks • Prahran • Prerequisite: 02501 • Teaching methods: Projects will be conducted in a studio environment, on location, through lectures, student consultation/discussion, demonstrations and critiques. • Assessment: Progressive evaluation of work through each semester by group discussion and evaluation. A folio of work and preliminary sequenced work presented as workbook/journal and digital files will be submitted at the end of each semester.
A subject in the Graduate Certificate of Design (Multimedia Design); Graduate Diploma of Design (Multimedia Design); and Master of Design (Multimedia Design)

Aims & Objectives
To produce through collaborative research a major interactive multimedia project. To explore through innovation and creativity the defining processes of interactive multimedia design.

Content
This subject consists of a major group project through which students will investigate aspects of design and sequence for multimedia outcomes and key aspects of communication. This will be a group determined project. The project will develop the special principles of design that help the design process in various media. Projects and workbooks will describe the design strategies that inform the practice of multimedia design. Presentations will provide an understanding of the structural, sequencing and spatial organisation that describes aspects of visual communication. Investigations are further developed into audio, video, animation, filmic imagery and 3D modelling requirements for digital delivery.

References

HMS771 Statistical Practice 2
12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HMS770 • Corequisites: HMS772 • Teaching methods: Classes and computer work integrated in small classes, supplemented by web based and other presentations. Subject available on and off-campus. • Assessment: Assignments, Tests
A subject in the Graduate Certificate of Science (Applied Statistics), Graduate Diploma of Science (Applied Statistics), and Masters of Science (Applied Statistics)
Aims & Objectives
• To extend the ideas developed in Statistical Practice 1 to include more advanced analyses.
• To broaden the range of applications students are familiar with, so that they will be able to carry out independent statistical investigations.
• To develop an awareness of the assumptions and limitations involved in the generalisation of results of such investigations.

Content
Extension of statistical inference to testing means for more than two groups, using analysis of variance for single factor and two factor designs with interaction. An introduction to power analysis. Inference for simple regression, testing regression assumptions using residual analysis and data transformations. Non-parametric methods for testing medians in single, related and independent groups (eg Binomial, sign, Wilcoxon, Friedman, Kruskal-Wallis). Analysis and interpretation of crosstabulations, including measures of association.

References

HMS772 Basic Statistical Computing
12.5 Credit Points 1 Semester 3 Hours per Week Hawthorn Prerequisite: HMS770 Teaching methods: Mainly hands-on computer laboratory sessions supplemented by classroom instruction as needed. This subject is also available off-campus. • Assessment: Assignments, Computer Based Tests
A subject in the Graduate Certificate of Science (Applied Statistics), Graduate Diploma of Science (Applied Statistics), and Masters of Science (Applied Statistics)
Aims & Objectives
To develop competence in the use of personal computers and to acquire a level of statistical computing competency necessary for basic social and health research.

Content
This subject will include a familiarisation with personal computers, an extensive introduction to a mainstream statistical package, such as SPSS for Windows, and the use of descriptive statistics procedures. There will also be an introduction to a mainstream spreadsheet such as Excel. Ideas of data presentation and visualisation will be introduced.

References
Statistical Packages: SPSS for Windows and Microsoft Excel Against All Odds, Comap Inc (Video series), 1990.
HMS773 Survey Research Practice

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Teaching methods: Class teaching with individual and group assignment work. Subject available on and off-campus. • Assessment: Assignments, Tests
A subject in the Graduate Certificate of Science (Applied Statistics), Graduate Diploma of Science (Applied Statistics), and Masters of Science (Applied Statistics)

Aims & Objectives
To identify and understand some of the methodologies used in survey research in the Social and Health sciences.

Content
An overview of the procedures used in survey research, questionnaire design and interview techniques (personal and telephone), mail surveys and census methods and an introduction to methods used in qualitative research. Also an introduction to the basic techniques used to analyse survey data, such as construction of scales. An introduction to methods of sampling. Other topics include editing, coding, and quality control of survey data in preparation for processing and analysis. Examples will be drawn from areas such as sociology, psychology, economics, medical sciences and marketing.

Textbooks

HMS774 Introduction to Health Statistics

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HMS770+ Teaching methods: Classes supplemented by Computer Laboratory work. Subject available on and off-campus. • Assessment: Assignments, Tests
A subject in the Graduate Certificate of Science (Applied Statistics), Graduate Diploma of Science (Applied Statistics), and Masters of Science (Applied Statistics)

Aims & Objectives
To introduce students to statistical measures and techniques which are specifically relevant to the health sciences, to enable them make reasoned conclusions from the measures.

Content
This subject will include a study of the following: an introduction to epidemiology, mortality data, morbidity data, screening, randomised clinical trials, community interventions, cohort studies, case control studies, ratios in health statistics, risks: odds ratios and relative risks.

References

HMS775 Chance and Gaming

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: Nil • Co-requisites: HMS770 and HMS772+ Teaching methods: Classes and computer laboratory sessions. Available on campus only. • Assessment: Assignments, Tests
A subject in the Graduate Certificate of Science (Applied Statistics), Graduate Diploma of Science (Applied Statistics), and Masters of Science (Applied Statistics)

Aims & Objectives
• To introduce students to elementary probability and distribution theory.
• To give students an understanding of the gaming and wagering industry.

Content
The history of probability and its beginnings through application to gaming problems. The importance and extent of the gambling industry, including the insurance industry. This subject will cover various aspects of probability, including expected values, conditional probability, mutually exclusive and independent events, tree diagrams, odds-probability conversion, probability distributions - normal, binomial, geometric and hypergeometric.
Probability will be explored in a variety of gambling contexts, including casino games, index betting, tattslotto, keno, trifectas and quinellas. Betting strategies, runs and randomness, setting a fixed odds book, operation of the totalizer and gaming faiillaries will also be discussed.

References

HMS780 Multivariate Statistics

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HMS771 • Teaching methods: Classes and computer work integrated in small classes, supplemented by web based and other presentatations. Subject available on and off campus. • Assessment: Assignments, Tests
A subject in the Graduate Diploma of Science (Applied Statistics) and Masters of Science (Applied Statistics)

Aims & Objectives
• To identify the multivariate techniques most commonly used in social research and to understand the assumptions underlying their use.
• To apply these techniques to relevant situations using statistical packages and to interpret the results of the analyses.

Content
The course will include multiple regression, multivariate analysis of variance, factor analysis and discriminant analysis. Analysis will be done using SPSS for Windows.

References
Relevant SPSS Guides Chicago: SPSS Inc.

HMS781 Further Statistical Computing

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HMS770, HMS772 • Teaching methods: Interactive computer lab based teaching. Subject available on and off-campus. • Assessment: Assignments, Tests
A subject in the Graduate Diploma of Science (Applied Statistics) and Masters of Science (Applied Statistics)

Aims & Objectives
To increase students’ competence in the use statistical packages and to apply this knowledge and skill to some more advanced data management, data presentation and statistical procedures.

Content
Extends the work done in Basic Statistical Computing to cover some further features of statistical and data management packages in the social sciences. Emphasis will be on more advanced file handling, data presentation and statistical procedures of the packages. This includes the special table and graphical features of SPSS and SAS and an introduction to other packages such as SAS and Access.

References
User Guides for the packages used.
School of Mathematical Sciences notes.
Sala, P., Excel notes, Swinburne.
HMS782  Forecasting
12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HMS771. A subject in the Graduate Diploma of Science (Applied Statistics) and Masters of Science (Applied Statistics)

Aims & Objectives
- To introduce students to problems encountered in working with observational data used in forecasting.
- To introduce students to the methodologies needed in forecasting in order to facilitate managerial planning and decision making.
- To improve students' problem team working and analytical capabilities.

Content
- Time series analysis.
- Forecasting using naive, averaging and exponential smoothing methods.
- Error analysis.
- Building forecasts using Excel.
- Regression models for prediction.
- Judgemental methods.
- Time series data and autocorrelation problem.
- Box-Jenkins methodology.
- Autoregressive models.
- Moving average models.
- Autoregressive Moving average models.
- Model building strategy.
- Model selection criteria.
- Models for seasonal data.
- Use of SPSS for implementation of Box-Jenkins methodology.

References
Tobin, P., Lecture notes.
Gholb, F., Lecture notes.

HMS783  Demographic Techniques
12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HMS770. A subject in the Graduate Diploma of Science (Applied Statistics) and Masters of Science (Applied Statistics)

Aims & Objectives
To help develop a demographic perspective, to introduce the methods of measuring the demographic process and to develop an awareness of the implications of demographics in the business and social environment.

Content
Demography relates to the study of the size, composition, distribution and change in a population. In this subject students will learn about sources of demographic data, some of their uses and what they have to offer other disciplines. It will introduce indicators of population characteristics such as elementary rates and ratios with examples from mortality, fertility, morbidity and migration. It may also cover topics of spatial patterns, demographic segmentation, population projections, look at models for regional demographic analysis and consider some social implications of demographic data. Sources of data will include the internet, ABS and Census data and CD ROM technology. Much of the analysis will be done using a suitable spreadsheet package such as Excel.

References


HMS784  Regression Models in Health
12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HMS774. A subject in the Graduate Diploma of Science (Applied Statistics) and Masters of Science (Applied Statistics)

Aims & Objectives
To develop critical and analytical skills in the evaluation of the health and medical literature on regression models used in health, with an emphasis on statistical and methodological analysis.

Content
Students will develop skills in critically evaluating and using the following:
- Classical analytic methods for risks and odds ratios.
- Logistic regression methods for the analysis of odds ratios.
- Descriptive and analytical survival data methods.
- Classical analytic and Poisson regression methods for standardised mortality ratios and rates.
- Specialist software for analysing generalised linear models, such as Stata, will be used.

References

HMS785  Epidemiological Methods
12.5 Credit Points  • 1 Semester  • 3 Hours per Week  • Hawthorn  • Prerequisite: HMS774. A subject in the Graduate Diploma of Science (Applied Statistics) and Masters of Science (Applied Statistics)

Aims & Objectives
To describe and understand some of the methodologies used in epidemiological research, and to appreciate the issues and problems involved in common health research programs. This will involve the development of critical skills in the evaluation of health and medical literature involving epidemiology, with an emphasis on statistical and methodological analysis.

Content
The main areas of study will be chosen from:
- Epidemiological Study Designs:
  - Descriptive and analytical studies.
  - Observational versus experimental designs.
  - Cross-sectional surveys.
  - Cohort and case-control studies.
  - Clinical trials and intervention studies.
  - Determination of sample size.

Confounding:
- Identifying potential confounding.
- Stratification and adjusted estimates.
HMS786  Survey Sampling

12.5 Credit Points  •  1 Semester  •  2 Hours per Week  •  Hawthorn  •  Prerequisite: HMS770, HMS773  •  Teaching methods: Class teaching integrated with computer sessions using Excel and Stata. Subject available on and off campus.  •  Assessment: Assignments, Tests

A subject in the Graduate Diploma of Science (Applied Statistics) and Masters of Science (Applied Statistics)

Aims & Objectives
To introduce the theory and practice of sampling methods used for social surveys.

Content
•  The theory and practice of sampling methods for social surveys.
•  Designing samples, obtaining estimates of means, totals, proportions and ratios and their standard errors.
•  Probability sampling methods, including simple random sampling, systematic sampling, stratified sampling, cluster sampling and multi-stage sampling.
•  Design effect and weighting.
•  Non-probability sampling methods.
•  Methods for non-response.

References
Stata Reference Manual, Stata Press College Station, Texas.
Stata Package, Stata Press College Station, Texas.

HMS787  Database Development and Management

12.5 Credit Points  •  1 Semester  •  3 Hours per Week  •  Hawthorn  •  Prerequisite: HMS772  •  Teaching methods: Small group classes and computer work. Available on campus only.  •  Assessment: Assignments

A subject in the Graduate Diploma of Science (Applied Statistics) and Masters of Science (Applied Statistics)

Aims & Objectives
To develop knowledge and skills in the development, management and manipulation of databases.

Content
•  Design and development of databases using a variety of computer packages (Access, Excel, SPSS, SAS).
•  Data handling and manipulation.
•  Transfer of data between computer packages.
•  Preparation of data files for statistical analyses

References
Computer Packages: SPSS for Windows, Access, Excel, SAS

HMS788  Sports Performance Modelling

12.5 Credit Points  •  1 Semester  •  3 Hours per Week  •  Hawthorn  •  Prerequisite: HMS770, HMS772 and HMS775  •  Teaching methods: Classes and computer laboratory sessions. Available on campus only.  •  Assessment: Assignments, Test, Project

A subject in the Graduate Diploma of Science (Applied Statistics) and Masters of Science (Applied Statistics)

Aims & Objectives
•  To give students an introduction to statistical modelling in sport.
•  To enable students to implement simple models via Excel and other packages, and appreciate the underlying assumptions and limitations.

Content
Introduction to modelling:
•  Markov chain and probability models of scoring systems.
•  Applications of chance of winning and length of matches in tennis, squash and other scoring systems.
•  Implementation via spreadsheets.

Statistical distributions:
•  Applications of the binomial, Poisson, geometric, exponential and normal distributions to goal scoring, cricket, tennis, hot streaks, player statistics.
•  Testing goodness of fit using Chi-square and Kolmogorov tests.

Linear modelling:
•  Prediction using regression analysis, fitting linear models to season results using indicator variables.
•  Applications to team rating, prediction, home advantage.

References
Computer Packages: SPSS for Windows, Excel, SAS
HMS791  Structural Equation Modelling

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HMS780 • Teaching methods: Class teaching with integrated computer sessions. Available on campus only. • Assessment: Assignments
A subject in the Masters of Science (Applied Statistics)

Aims & Objectives
To enable students to gain familiarity with structural equation modelling techniques.

Content
The subject will give introductory, applied instruction on the use of Structural Equation Models (SEM) in research. SEMs are used to find and test complex relationships between observed (measured) variables and latent (unobserved) variables and amongst the latent variables themselves. This subject will show how Structural Equation Models are used widely by researchers in a diverse array of fields such as economics, sociology, psychology, political science, marketing, epidemiology, and education.

References

Computer Packages: SPSS for Windows, LISREL and AMOS

HMS792  Scale Development and Evaluation

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HMS780 • Teaching methods: Small group classes and computer work. Available on campus only. • Assessment: Assignments
A subject in the Masters of Science (Applied Statistics)

Aims & Objectives
To develop knowledge and skills in the principles and practice of scale development, refinement and psychometric evaluation.

Content
Measurement theory, principles of scale development and evaluation, reliability and validity. Use of exploratory and confirmatory factor analysis in scale refinement.

References

Computer Packages: SPSS for Windows, AMOS

HMS793  Advanced Topics in Regression

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HMS780 • Teaching methods: Class teaching with integrated computer sessions. Subject available on campus only. • Assessment: Assignments
A subject in the Masters of Science (Applied Statistics)

Aims & Objectives
To make students familiar with several more advanced statistical modelling techniques.

Content
The General Linear Model (GLM). This model underlies most of the statistical analyses that are used in applied and social research, such as the t-test, Analysis of Variance (ANOVA), Analysis of Covariance (ANCOVA), regression analysis, and many of the multivariate methods. Because of its generality, the model is important for students of social research. Topics will include log-linear models for investigating relationships in categorical data such as multi-way contingency tables and non-linear regression to handle data which does not satisfy the assumptions required in linear models.

References

Computer Packages: SPSS for Windows, Stata

HMS794  Statistical Marketing Tools

12.5 Credit Points • 1 Semester • 3 Hours per Week • Hawthorn • Prerequisite: HMS792 • Teaching methods: Small group classes and computer work. Subject available on campus only. • Assessment: Assignments
A subject in the Masters of Science (Applied Statistics)

Aims & Objectives
To investigate the underlying structure of market research and social science data using a number of dimensional analysis mapping, segmentation and preference techniques.

Content
Market research analysts in both commerce and industry make daily decisions regarding their products and services in today’s complex and competitive markets. These decisions, important to the welfare of their companies, must be based on the best available information, usually gathered through surveys. The methods included will be selected from:

- Mapping techniques including multidimensional scaling and correspondence analysis.
- Preference techniques including conjoint analysis.
- Market segmentation methods for finding statistically significant groups in data using methods such as cluster analysis, discriminant analysis, neural networks and decision trees.
- Risk analysis of decision making.

References
Berzviti, J. P. Correspondence Analysis Handbook.
Gordon A. D. (Classification (Monographs on Statistics and Applied Probability, 82)).
Greenacre, Michael, Blasius, Jorge (Ed.) Correspondence Analysis in the Social Sciences: Recent Developments and Applications.
Grimm, L., Yarnold, P.R., (Eds.) Reading and Understanding Multivariate Statistics.
Jaccoby, W.G., Data Theory and Dimensional Analysis.

HNE101  Introduction to Nutritional and Environmental Medicine

10 Credit Points • 4 Weeks • 5 Hours per Week • Hawthorn • Prerequisite: Nil • Corequisites: Nil • Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives). • Assessment: Continuous.

A subject in the Graduate Certificate/Diploma of Nutritional and Environmental Medicine.

Aims & Objectives
To introduce the principles of nutritional and environmental medicine.

Content
- Review of the course in nutritional and environmental medicine.
- The role of medical journals and other sources.
- Nutritional and integrative medicine.
- History of Food.
- Basic concepts in nutrition/dietary history.

**HNE102  Biology of Nutrients**

10 Credit Points  4 Weeks  5 Hours per Week  Hawthorn  Prerequisite: Nil  Corequisites: Nil  Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives)  Assessment: Continuous.

A subject in the Graduate Certificate/Diploma of Nutritional and Environmental Medicine.

**Aims & Objectives**
To review the biology of both macro and micronutrients.

**Content**
- Proteins and amino acids.
- Carbohydrates - complex and refined.
- Lipids and essential fatty acids.
- Omega-3 polyunsaturated fatty acids.
- Essential fatty acid requirements.
- Dietary fibre and starch.
- Vitamins and minerals.
- Vitamin B1-thiamine.
- Vitamin B2-rhiamin.
- Vitamin B6-pyridoxine.
- Vitamin B12-thiotriamidc.
- Vitamin C and bioflavonoids.
- Vitamin E.
- Water, sodium, potassium, lithium, rubidium and vanadium.
- Iron selenium molybdenum, and the heavy metals.
- Zinc, manganese and copper.
- Summary of vitamin and mineral deficiency science.
- Nutrient interactions.

**Recommended Reading**

**HNE203  Nutrient Therapy in Toxicology and Skin Problems**

10 Credit Points  4 Weeks  5 Hours per Week  Hawthorn  Prerequisite: Nil  Corequisites: Nil  Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives)  Assessment: Continuous.

A subject in the Graduate Certificate/Diploma of Nutritional and Environmental Medicine.

**Aims & Objectives**
To highlight the importance of nutrient interactions as well as their safety and toxicity. The nutritional aspects involved in the cause, prevention and treatment of skin disease will be reviewed.

**Content**
- Drug - nutrient interactions.
- Safe application of nutritional therapies.
- Toxicity of nutritional therapies.
- Nutritional factors involved in skin disease.

**Recommended Reading**

**HNE204  Environmental Medicine**

10 Credit Points  4 Weeks  5 Hours per Week  Hawthorn  Prerequisite: Nil  Corequisites: Nil  Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives)  Assessment: Continuous.

A subject in the Graduate Certificate/Diploma of Nutritional and Environmental Medicine.

**Aims & Objectives**
To study the role of environmental pollutants and other toxic substances in the cause of disease, plus the mechanisms involved. The available treatments will also be discussed.

**Content**
- Introduction to environmental medicine.
- Mechanisms of toxicity.
- Protection against toxic substances.
- The immune system, food additives and sensitivities.
- Nutritional therapy.
- Environmental Disease.
- Electromagnetic radiation.
- Air pollution.
- Prescription drugs.
- Chronic fatigue syndrome.

**Recommended Reading**

**HNE205  Nutritional Approaches to Neurological and Degenerative Disorders and Ageing Problems**

10 Credit Points  4 Weeks  5 Hours per Week  Hawthorn  Prerequisite: Nil  Corequisites: Nil  Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives)  Assessment: Continuous.

A subject in the Graduate Certificate/Diploma of Nutritional and Environmental Medicine.

**Aims & Objectives**
Neurological disorders associated with nutrition will be presented, and the role of nutritional factors in the treatment of these disorders will be reviewed. This subject will examine the prevention of degenerative disease through the analysis of cause and mechanisms. Current and potential future therapies will be discussed, and the common nutritional problems associated with ageing and their care and treatment will be reviewed.

**Content**
- Common nutritional related neurological disorders including migraine, epilepsy and degenerative disorders.
- Nutritional management of neurological disorders.
- Strategies for prevention and degenerative disease.
- The role of free radicals and antioxidants in the mechanisms of degenerative disease.
- Therapeutic potential of antioxidants in prevention and treatment of degenerative diseases.
- Role of other nutritional substances in the prevention and treatment of degenerative disease.
- Common nutrition related disease.
• Factors that lead to poor nutrition in the aged.
• Dietary guidelines in the aged.
• The nutritional management of diseases in the aged.

Recommended Reading

HNE206 Nutritional Approaches to Cardiovascular and Respiratory Problems
10 Credit Points • 4 Weeks • 5 Hours per Week • Hawthorn • Prerequisite: Nil • Corequisites: Nil • Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives) • Assessment: Continuous.
A subject in the Graduate Certificate/Diploma of Nutritional and Environmental Medicine.

Aims & Objectives
The role of nutrients in the cause of cardiovascular disease as well as the mechanisms involved will be reviewed. Other aspects of cardiovascular disease will also be reviewed. The role of diet as well as nutritional therapy and other factors in the treatment of cardiovascular disease will be presented and the relevant information relating to respiratory disease and nutrition will be reviewed.

Content
• The physiology of the cardiovascular system.
• Prevention of cardiovascular disease.
• The role of lipids in cardiovascular disease.
• The role of other factors in cardiovascular disease.
• Nutrients and other factors in the treatment of cardiovascular disease.
• Nutritional factors in the cause and prevention of respiratory disease.
• Asthma and its non drug management.
• Environmental pollutants and respiratory disease.

Recommended Reading

HNE207 Nutritional Approaches to Gastrointestinal Problems and Behavioural Problems
10 Credit Points • 4 Weeks • 5 Hours per Week • Hawthorn • Prerequisite: Nil • Corequisites: Nil • Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives) • Assessment: Continuous.
A subject in the Graduate Certificate/Diploma of Nutritional and Environmental Medicine.

Aims & Objectives
A review of gastrointestinal disorders and the role of nutrients in their cause and prevention. The importance of behavioural problems that influence diet will be presented and the nutritional aspects of various behavioural disorders will also be emphasised.

Content
• Common non-malignant gastrointestinal disorders and nutritional factors.
• Nutritional management of common gastrointestinal disorders.
• Disturbances of gastrointestinal flora and their management.
• Behaviour and diet.
• Weight problems.
• Nutritional factors and behavioural disorders.

Recommended Reading
Foo, E., et al., The Lactic Acid Bacteria, Horizon Norfold, 1996.

HNE208 Nutritional Approaches to Women’s Health and Paediatric Problems
10 Credit Points • 4 Weeks • 5 Hours per Week • Hawthorn • Prerequisite: Nil • Corequisites: Nil • Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives) • Assessment: Continuous.
A subject in the Graduate Certificate/Diploma of Nutritional and Environmental Medicine.

Aims & Objectives
To introduce the important principles involved in prevention of specific problems in women as well as their cause. The role of nutrients and nutritional therapy will be discussed and the importance of nutrition in the various stages of development will be presented. Common paediatric disorders, related to nutrition and their treatment, will be included.

Content
• Common medical problems in women.
• The premenstrual syndrome.
• Nutritional factors in the premenstrual syndrome.
• Breast disease, dysmenorrhoea, menorrhagia and cervical dysplasia.
• Nutrients in pregnancy.
• Nutritional management of menopause.
• Osteoporosis.
• Feeding from infants to adolescent.
• Common nutritional deficiencies in the young.
• Common paediatric disorders and nutritional factors.

Recommended Reading

HNE209 Nutritional Approaches to Men’s Health and Endocrine Problems
10 Credit Points • 4 Weeks • 5 Hours per Week • Hawthorn • Prerequisite: Nil • Corequisites: Nil • Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives) • Assessment: Continuous.
A subject in the Graduate Certificate/Diploma of Nutritional and Environmental Medicine.

Aims & Objectives
To review important aspects of men’s health and highlight common problems with a special emphasis on prevention and nutritional factors. Cause, mechanisms and prevention of diabetes, as well as its nutritional management, will be presented. The role of nutrients in other endocrine diseases will also be reviewed.

Content
• Males and their behaviour.
• Common diseases in males.
• Nutritional aspects of diseases in men.
• The cause and prevention of diabetes.
• The nutritional management of diabetes.
• Nutritional factors and other endocrine disorders.

Recommended Reading
Biddleigh, S., Rising Boys, Finch, Lane Cove, 1997.
HNE210 Nutritional Approaches to Musculoskeletal Problems and Sports Nutrition
10 Credit Points • 4 Weeks • 5 Hours per Week • Hawthorn • Prerequisite: Nil • Corequisites: Nil • Teaching methods: Lectures/Tutorials, clinical demonstrations, journal review, distance education (including clinical intensives) • Assessment: Continuous.
A subject in the Graduate Certificate/Diploma of Nutritional and Environmental Medicine.

Aims & Objectives
Factors involved in the cause of musculoskeletal problems will be reviewed and the possibilities of nutritional therapy will be explored. The nutritional status of sports people will be discussed and special requirements for various sports people will be presented.

Content
- Nutritional strategies for pain management.
- Energy requirement of sports people.
- Nutritional deficiency in sports people.
- Recommended diets and nutrient supplementation.

The nutritional aspects of the following disorders will be discussed:
- Osteoarthritis.
- Rheumatoid arthritis.
- Gout.
- Ankylosing spondylitis.

Recommended Reading

HPDD701 Design Research Project 1
50 Credit Points • Prahran • Prerequisite: Nil • Assessment: Exhibition or other appropriate media.
A subject in the Professional Doctorate in Design.

Aims & Objectives
- The overarching aim is to utilise aspects of the new electronic media creatively within a Design discipline (e.g. Industrial Design, Graphic Design, Interior and Exhibition Design). In support of this the specific aims are:
  - To achieve expertise in the chosen electronic media.
  - To demonstrate this expertise via the highest industry standards of Design research and presentation.

Content
Design Research Project One will follow the international industry standard format for a Design Project. This will involve the formulation of a Design brief describing:
- The Design problem to be investigated.
- The parameters of the investigation, including details of the electronic media component.
- The nature of the research outcomes and the format of their presentation (e.g. Exhibition, CD-ROM).

Given the overarching aim of the project, a high level of creativity will be expected in the application of the electronic media within the Design research. Students will undertake individual projects reflecting their own Design discipline (e.g. Industrial Design, Graphic Design, Interior and Exhibition Design). The Design problem to be investigated, and the electronic media relevant to this.

Design Research Project Two should be in the same Design discipline as Design Research Project One (e.g. Industrial Design, Graphic Design, Interior and Exhibition Design). However, the Design brief will focus upon a distinct Design problem, and utilise a distinct electronic media component.

HPDD703 Major Design Research Project
100 Credit Points • Prahran • Prerequisite: HPDD701 and HPDD702 • Assessment: Exhibition or other appropriate media.
A subject in the Professional Doctorate in Design.

Aims & Objectives
The overarching aim of this subject is to creatively integrate previously studied aspects of new electronic media within the discipline. In support of this, the specific aims include:
- To achieve expertise in the integration of the electronic media.
- To demonstrate this expertise via the highest industry standards of Design research and presentation.

Content
The focus of the Major Design Research Project will be the integration of the knowledge/expertise gained from Design Research Projects 1 and 2. Integration, however, will not simply be at a technical level: rather, it must extend the Design discipline into new areas of exploration. As such, the Major Design Research Project will seek to break new ground in the creative application of electronic media within the Design discipline. A Project Report describing the parameters of the investigation will support this work.

As previously, the Major Design Research Project will follow the international industry standard format for a Design Project. This will involve the formulation of a brief describing:
- The Design problem to be investigated.
- The parameters of the investigation, including details of the electronic media components.
- The nature of the research outcomes and the format of their presentation (e.g. Exhibition, CD-ROM).

As in Design Research Projects 1 and 2, students will undertake individual projects reflecting their own Design discipline (e.g. Industrial Design, Graphic Design, Interior and Exhibition Design) and the Design problem to be investigated.

HSC720 Applied Chemical Techniques
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Assignments.
A subject in the Graduate Diploma of Applied Science (Industrial Chemistry/Biochemistry).

Content
- Computers in chemistry.
- Spectroscopy IR, UV/visible and atomic.
- Chromatography GC and HPLC.
Gel electrophoresis and enzyme kinetics. Chromatography, fractionation using ultracentrifugation, antibody labelling techniques, disulphide and thiol groups in proteins, fluorescence spectroscopy, affinity in biochemical and chemical laboratories. These techniques include estimation of content.

HSC721 Properties of Colloids and Interfaces
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Tutorials.
A subject in the Graduate Diploma of Applied Science (Industrial Chemistry/Biochemistry).
Content
- Classification and scope of colloidal systems and interfaces.
- The properties of curved surfaces.
- Concepts of surface tension and surface activity.
- Absorption and orientation at interfaces.
- Wetting and spreading of liquids on solids, concept of contact angle.
- Origin of charge and electrical double layer on surfaces in aqueous dispersions - potential determining ions, ionic adsorption.
- Electrokinetic phenomena - zeta potential.
- Stability of colloidal dispersions.
- Throughout the lecture course, strong emphasis is given to applying the basic concepts and principles to practical examples of the uses of colloids.

HSC723 Industrial Chemistry
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Assignments, Tutorials.
A subject in the Graduate Diploma of Applied Science (Industrial Chemistry/Biochemistry).
Content
- NMR spectroscopy, mass spectrometry and Fourier transform techniques.
- Liquid surfaces.
- Electrochemistry.

HSC725 Practical Chemistry
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil.
A subject in the Graduate Diploma of Applied Science (Industrial Chemistry/Biochemistry).
Content
Analytical experiments using GC, HPLC, AA, UV/visible and IR techniques.

HSC729 Industrial Microbiology
12.5 Credit Points • 1 Semester • 4 Hours per Week • Hawthorn • Prerequisite: Nil.
A subject in the Graduate Diploma of Applied Science (Industrial Chemistry/Biochemistry).
Content
Students study subject areas from six options. The subject areas are:
- Microbial genetics.
- Fermentation technology.
- Fermentation reactions.
- Enzyme technology.
- Waste treatment and disposal.
- Down stream processing.

HSC731 Practical Biochemistry
12.5 Credit Points • 1 Semester • 6 Hours per Week • Hawthorn • Prerequisite: Nil • Assessment: Pracs.
A subject in the Graduate Diploma of Applied Science (Industrial Chemistry/Biochemistry).
Content
The practical work covers a range of laboratory exercises and common techniques used in biochemical and chemical laboratories. These techniques include estimation of disulphide and thiol groups in proteins, fluorescence spectroscopy, affinity chromatography, fractionation using ultrasensitive techniques, antibody labelling techniques, gel electrophoresis and enzyme kinetics.

HSC900 The Scope of Computational Chemistry
12.5 Credit Points • 150 hours of study spread over 8 months full-time or up to 20 months part-time • Hawthorn • Prerequisite: Nil • Teaching methods: Study of materials available over the internet, essay writing, and software installations and use. Major sources: WWW documents and code, both written by the course team and by others. • Assessment: Computer Managed Learning, Essays, Report.
A subject in the Master of Applied Science in Computational Chemistry/Biomolecular Design.
Aims & Objectives
On completion of this unit students will have a broad overview of computational chemistry, will have successfully installed and used a major computer package on their own computer and will understand the relevance of computational chemistry to real problems. The unit will give students a broad understanding of the scope of computational chemistry today, improve their skills in finding information on the internet and start them off in having significant code for computational chemistry on their own site.
Content
This unit is intended to give students a broad view of computational chemistry and will do this by allowing them to access a range of materials over the internet. It is the overview unit of M Sc in Computational Chemistry. The unit involves various in-depth studies of the role of computational chemistry and the installation and use of a significant computer package in the field.

HSC901 Molecular Modelling
12.5 Credit Points • 150 hours of study spread over 8 months full-time or up to 20 months part-time • Hawthorn • Prerequisite: Nil • Teaching methods: Study of materials available over the internet, essay writing, and reports on software use. • Assessment: Computer Managed Learning, Essays, Report.
A subject in the Master of Applied Science in Computational Chemistry/Biomolecular Design.
Aims & Objectives
On completion of this unit, students will have a broad understanding of the methods and application of molecular modelling.
Content
This unit provides an introduction to molecular modelling and provides the basis on which all the more advanced units build. The unit includes extensive use of molecular visuallisers.

HSC902 Approximate Quantum Chemistry
12.5 Credit Points • 150 hours of study spread over 8 months full-time or up to 20 months part-time • Hawthorn • Prerequisite: Nil • Teaching methods: Study of materials available over the internet, essay writing, and software installation and use. • Assessment: Computer Managed Learning, Essays, Report.
A subject in the Master of Applied Science in Computational Chemistry/Biomolecular Design.
Aims & Objectives
On completion of this unit, students will understand the basic theory of empirical and semi-empirical molecular orbital methods and be able to use software such as Huckel, extended Huckel and MOFAC (MDID0, AM1 and PM3) to calculate properties of simple organic molecules.
Content
This unit will provide a practical introduction to empirical and semi-empirical molecular orbital theory. It includes Huckel theory, extended Huckel theory, and zero-differential overlap methods such as MIND0, MND0, AM1 and PM3. While practical applications are emphasised, students will be expected to acquire an adequate knowledge of the basic theory and a keen appreciation of the range of problems that particular methods are appropriate for.

References
WWW documents and code, written by the course team and by others.
HSC903 Basic Quantitative Structure Activity Relationships (QSAR)

12.5 Credit Points • 150 hours of study spread over 8 months full-time or up to 20 months part-time • Hawthorn • Prerequisite: Nil • Teaching methods: Study of materials available over the internet, essay writing, and report writing. • Assessment: Computer Managed Learning, Essays, Report.

A subject in the Master of Applied Science in Computational Chemistry/Biomolecular Design.

Aims & Objectives
On completion of this unit, students will understand the basic theory and methods of quantitative structure-activity relationships (QSAR).

References
WWW documents and code, both written by the course team and by others.

HSC904 Ab initio Quantum Chemistry

12.5 Credit Points • 150 hours of study spread over 8 months full-time or up to 20 months part-time • Hawthorn • Prerequisite: Nil • Teaching methods: Study of material available over the internet, essay writing, software installation and use. • Assessment: Computer Managed Learning, Essays, Report.

A subject in the Master of Applied Science in Computational Chemistry/Biomolecular Design.

Aims & Objectives
On completion of this unit, students will be able to run ab initio calculations using the Gaussian and/or GAMESS(US) packages to calculate optimised geometries, frequencies and spectral intensities for small molecules and will understand the basic theory and criterion for choice of basis sets.

Content
This unit will provide a broad background to the use of ab initio molecular orbital methods. The emphasis is on how and when to apply the methods and a critical appreciation of the reliability of results obtained in different situations. The unit will also cover the basic theory of all methods and the choice of basis sets.

References
WWW documents and code, both written by the course team and by others.

HSC905 Molecular Mechanics and Dynamics

12.5 Credit Points • 150 hours of study spread over 8 months full-time or up to 20 months part-time • Hawthorn • Prerequisite: Nil • Teaching methods: Study of materials available over the internet, essay writing, and software installation and use. • Assessment: Computer Managed Learning, Essays, Report.

A subject in the Masters of Applied Science in Computational Chemistry/Biomolecular Design.

Aims & Objectives
On completion of this unit, students will understand the basic methods of molecular mechanics and molecular dynamics and be able to use these methods to locate local and global minima for a range of molecules up to the size of small proteins.

Content
Basic concepts of classical potential energy, molecular mechanics, molecular dynamics, simulated annealing and related types of calculations will be introduced. The unit will involve extensive calculations using appropriate software.

References
WWW documents and code, both written by the course team and by others.

HSC906 Advanced Molecular Modelling

12.5 Credit Points • 300 hours of study spread over 8 months full-time or up to 20 months part-time • Hawthorn • Prerequisite: Nil • Teaching methods: The WWW pages produced by the CAUT project will provide the basic learning materials for this unit. Students will be expected to be conversant with current literature and will be encouraged to try relevant computational methods which become available. • Assessment: Computer Managed Learning, Essays, Report.

A subject in the Master of Applied Science in Computational Chemistry/Biomolecular Design.

Aims & Objectives
On completion of this unit, students will have an extensive knowledge of the methods of molecular modelling and will be able to integrate data obtained from appropriate calculations to build working hypotheses which can be used for predictive purposes. The main emphasis will be in the area of drug design.

Content
Advanced molecular modelling focuses on the integration of data obtained from appropriate calculations to build working hypotheses which can be used for predictive purposes. The main emphasis will be in the area of drug design. Students will become familiar with a number of software packages and will apply the techniques to appropriate problems, such as the design of bioactive compounds.

References
WWW documents and code, both written by the course team and by others, along with various texts and articles from the literature.

HSC907 Advanced ab initio Quantum Chemistry

12.5 Credit Points • 300 hours of study spread over 8 months full-time or up to 20 months part-time • Hawthorn • Prerequisite: Nil • Teaching methods: Study of materials available over the internet and in texts and literature articles, essay writing and software installation and use. • Assessment: Computer Managed Learning, Essays, Report.

A subject in the Master of Applied Science in Computational Chemistry/Biomolecular Design.

Aims & Objectives
On completion of this unit, students will have an extensive knowledge of the methods of ab initio quantum chemistry. They will be able to make sophisticated choices of method and basis set appropriate for a particular problem and have a wide knowledge of the available computer codes for these methods.

Content
This unit will look at all the current methods of ab initio molecular orbital theory including Hartree-Fock theory, Muller-Plesset perturbation theory to order four, coupled cluster theory, configuration interaction, G2 theory and Density Functional Theory. The theory, choice of method and choice of basis sets will be investigated in detail.

References
Materials used will be the WWW pages produced by the CAUT Project, some openly available pages from other sites containing advanced material, and a textbook, such as Modern Quantum Chemistry by Szaboand Ostlund (this is currently out of print but a new edition is expected). Students will also be expected to consult the original literature.

HSC908 Advanced QSAR

25 Credit Points • 300 hours of study spread over 8 months full-time or up to 20 months part-time • Hawthorn • Prerequisite: Nil • Teaching methods: Study of materials available over the internet, essay writing, and report writing. • Assessment: Computer Managed Learning, Essays, Report.

A subject in the Masters of Applied Science in Computational Chemistry/Biomolecular Design.

Aims & Objectives
On completion of this unit, students will have an extensive knowledge of the theory and methods of quantitative structure-activity relationships (QSAR).

Content
This module provides an introduction to the advanced concepts used in the design of experiments and analysis of resultant data by use of generalised pattern recognition techniques.

References

WWW documents and code written by the course team and by others.

HSC909 Research Project and Report

25 Credit Points • 600 Hours of study spread over 3 months of full-time internal study. • Hawthorn • Prerequisite: Nil • Teaching methods: Supervised research work on a project selected by the supervisor. • Assessment: Thesis.

A subject in the Masters of Applied Science in Computational Chemistry/Biomolecular Design.

Aims & Objectives
On completion of this unit, students will have completed a small original research project and will have acquired a thorough appreciation of research methodology in one area of computational chemistry.
Aims & Objectives
Provision of the fundamental aspects of computing in terms of hardware, operating systems, data communications and algorithmic processing.

Content
Participants are provided with an introduction to a number of fundamental concepts underlying the design and use of contemporary computing systems. The content is supplemented with practical activities designed to help develop introductory level skills in Internet web page development and time and project management. The subject provides a solid foundation for further studies and learning in other subjects from information technology and information systems study streams.

- Personal Project Management.
- Web Page Development.
- Algorithms.
- Binary Systems and Architecture.
- Contemporary Computer Systems.
- Operating Systems.
- Data Communication and Networks.
- Artificial Intelligence.
- Social Issues.

References

LAC200 Programming
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LAS100 • Assessment: Assignments, Examinations.
A Stage 2 subject in the Information Technology, Systems and Multimedia discipline which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
Students become competent in computer programming concepts and techniques, including specification, design, testing, documentation etc.

Content
Students cover the basics such as program control, decision-making, subroutines, input/output handling and documentation. From 2001 students may study either:

- Business Programming - Visual Basic.
- Commercial Programming - C++.
- Multimedia Programming - Java.

References
Any one of the following:

LAC220 Systems Programming and Architectures
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LAC100 • Assessment: Assignments, Examinations.
A Stage 2 subject in the Information Technology, Systems and Multimedia discipline which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
Students are exposed to the requirements of writing systems level programs and the principles of operation of various components of a computer system.

Content
Students examine computer architectures from a system-point of view and gain an understanding of the general features of operating systems and what distinguishes them from other systems. Students undertake some systems programming using multi-user operating systems, eg. UNIX.

References

LAC300 IT Professional & Ethical Issues
12.5 Credit Points • 12 Weeks or equivalent • 2.5 Hours per Week • Lilydale • Prerequisite: Any three Stage 2/3 subjects from the Information Technology discipline • Assessment: Assignments.
A Stage 3 subject in the Information Technology, Systems and Multimedia discipline which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To provide students with a framework for the development of personal and corporate ethics appropriate for the information technology professional, and to allow students to explore the uses of contemporary developments in computing and their implications for society.

Content
Topics include legal, social, ethical and privacy issues as well as the impact of automation on organisations.

References

LAC310 Advanced Programming & Systems Project
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LAC100 and LAC200 • Assessment: Assignments, Examinations.
A Stage 3 subject in the Information Technology, Systems and Multimedia discipline which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
Students build on the concepts and practices of programming learned in earlier subjects, and learn to develop Object-Oriented techniques.

Content
Advanced functionality of the selected programming language is developed using more complex problems. Investigation of object-oriented programming techniques and their application. From 2002 students will choose a language from C++, Java or Visual Basic.

References
Any one of the following:

LAC320 Advanced Programming & Systems Project
25 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LAS200 and LAC200 • Teaching methods: Software Engineering and CASE involves a range of learning approaches, including lectures, tutorial laboratory sessions, electronic media, Drop-in lab support, readings and practical exercises. • Assessment: Systems Design Project, Implementation Project.
A Stage 3 subject in the Information Technology, Systems and Multimedia discipline which may be taken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To advance the knowledge and concepts developed in LAS100, LAS200 and LAC200, to develop design knowledge and understand the relationship of design to other systems development phases. Programming knowledge, in two languages, will be further developed.

Content
Students concentrate on programming in multiple languages, software development/ engineering and on the latter stages of the systems development life cycle, particularly design, testing, quality, metrics, etc. Structured and object design, interface design and evaluation, implementation and maintenance will also be covered. Students will be
LAII240 Electronic Communications and Applications

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale
Prerequisite: LAC100 • Assessment: Assignments, Examinations.
A Stage 2 subject in the Information Technology, Systems and Multimedia discipline which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
The subject reviews contemporary data communications applications, including Internet based communications.

Content
Students discuss the application and technical contents of the data communications field in order to understand why and how data communications systems work. The major components of a data communications system are described as well as the way they fit together. The course also provides description of the terminology and discussion of current standards and legislation, and recent changes coming from carriers and providers of communications services. Other areas of study include:

- Communications Techniques/Media.
- Communications Techniques.
- Networking.
- Local Area Networks.
- Wide Area Networks.
- Network Management.
- Network Security.
- Network Applications.

References

LAII230 Management Support Systems

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale
Prerequisite: LAII100 • Assessment: Assignments, Examinations.
A Stage 2 subject in the Information Technology, Systems and Multimedia discipline which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
Provide students with an understanding of the essential nature of accurate, relevant and timely information for decision making by all levels of management, and how best to produce and present such information.

Content
Students are familiarised with decision making processes, data warehousing and modelling techniques. They are taught how to support those making decisions by designing suitable systems. Artificial Intelligence and Expert Systems are defined and described, together with methods of validating knowledge. Finally, organisational and societal issues are examined.

References
LAI3300  Professional Reading & Writing in Technology & Culture
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale •
Prerequisite: Any three Stage 2 subjects from Information Technology discipline •
Assessment: Assignments, Examinations.
A Stage 3 subject in the Information Technology, Systems and Multimedia discipline
which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
Students are encouraged to research a significant IS and/or IT area in sufficient detail
that the research project and/or report produced is of sufficient quality to be accepted
for publication as a part of the Swinburne at Lilydale working paper series or
conference. Students also learn the principles involved in literature analysis, research
approaches and proposal development.

Content
• Electronic Commerce.
• Multimedia technology and applications.
• Artificial Intelligence and Neural Computing.
• Human Computer Interaction.
• Expert Systems and Intuitive Technologies.
• Evolving Technologies.
Other topics can be negotiated with the Readings Unit Coordinator.

References
Readings are referenced by students from Library, WWW and periodical resources: these
sources are topic dependent.

LAI320  Database Management Systems
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale •
Prerequisite: LAI210 • Assessment: Assignments, Examination or Research Project.
A Stage 3 subject in the Information Technology, Systems and Multimedia discipline
which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
Data modelling and conceptual database knowledge are extended to include
development and management of databases. Students are equipped with a practical and
conceptual knowledge of database management systems. Also, students examine
database design, implementation and performance issues in both local and distributed
client-server environments, including data warehousing.

Content
• Schema Architecture.
• Concurrency Control.
• Database Recovery and Transaction Management.
• Database design, implementation, management.
• Database issues.
• Developments in Database Management Systems.

References

LAI350  eCommerce & Business Computing Applications
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale •
Prerequisite: Any 2 of LAI100, LAI230, LAI240, LAI280, LAM270, LAM290 •
Assessment: Assignments, Examinations.
A Stage 3 subject in the Information Technology, Systems and Multimedia discipline
which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
This unit focuses on the business applications of IT. Students study business functions
and how they can exploit IT. Students investigate in detail different business and
organisation information systems applications (e.g. MRP, HRM, Finance, Marketing).
Students also study the application of information technology for delivery and
management of Electronic Commerce and Internet applications.

References
Hall, 2000.

LAM270  Multimedia Tools and Concepts
12.5 Credit Points • 12 Weeks or equivalent • 3.5 Hours per Week • Lilydale •
Prerequisite: LAM100 and LSM100 • Assessment: Examinations, Powerpoint
multimedia project, Business/Community Kiosk Project.
A Stage 2 subject in the Information Technology, Systems and Multimedia Discipline
which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
The study of Multimedia (IMM) development begins with a historical perspective,
investigating the computer mediated communications artefact. This lays the foundation
for human-technology and technology-technology interface development. The
technologies and software development options are considered, which includes the
application of at least one multimedia presentation tool (e.g. Powerpoint 2000, Flash,
Dreamweaver). Developments will include web-based applications and development,
multimedia data transfer and eCommerce.

Content
Interactive IMM provides a new opportunity to communicate social texts in a computer
mediated form. IMM tools and concepts are learnt in order to communicate these texts
in an intuitive, seamless, interactive, multimedia model. Topics include:
• Powerpoint 2000 as a media builder.
• Multimedia tools (e.g. Flash, Director).
• 2D/3D animation.
• MM as a presentation medium for business and organisations.
• Multimedia development.
• Writing social texts using MM.
• Intuitive navigation.
• Interactivity, seamlessness of textuality.
• Computer mediated information.
• Human interaction with computer mediated information.

References

LAM290  Multimedia and Web Design
12.5 Credit Points • 12 Weeks or equivalent • 3.5 Hours per Week • Lilydale •
Prerequisite: LAS100 and LSM100 • Assessment: Examinations, Individual web site or
multimedia project, Business/Community Kiosk Project.
A Stage 2 subject in the Information Technology, Systems and Multimedia Discipline
which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
Using a project-based format and starting with a knowledge of tools, the requirements
for web site development are investigated and analysed as the process of production
from concept to outcome is explored. Consideration is given to design psychology and
human computer interaction as well as the development of HTML skills.

Content
Multimedia and Web Design provides an opportunity to discover and apply design
concepts and to explore the challenges in the production of an internet application.
Topics include:
• Web design heuristics.
• Prototyping, data and information analysis.
• Life cycle management and tools.
• Business and virtual community web sites.
• Multimedia development.
• Analysis and design.
• Web design, psychology and sociology.
• eCommunication.
• Human interaction with computer mediated information.
• Internet for cultural textuality.
• HTML coding.

References
Other Tool specific and internet to be advised. Further references as required.

**LAS300 IMM Production and Project**

25 Credit Points • Equivalent to two subjects of study for one semester or approximately 300-400 hours • Lilydale • Prerequisite: Any three of LAM270, LAS200, LAI260, LSM200, and LSM203 • Assessment: Web site or multimedia Design, Virtual Business/Community web site development.

A Stage 3 subject in the Information Technology, Systems and Multimedia Discipline that may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
Taking a project from requirements to implementation and support requires considerable personal and group management skills. Requirements are to be be developed and implemented holistically, considering human interactivity and cultural inclusiveness.

Content
IMM Project and Production provides an opportunity to discover and apply multimedia concepts and to explore challenges in the production of an electronic presentation. Topics include:

- Project management tools.
- Interactive applications generation tools.
- Project integration, scope, costing etc.
- Team management etc.
- Business / Community computer mediated application development.
- Cultural inclusiveness, communication.
- Team dynamics, procurement management etc.
- Holism of projects.
- Application support and implementation.

References

**LAM300 Systems Analysis and Design**

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LAS100 and LAI210 • Assessment: Assignments, Examinations.

A Stage 3 subject in the Information Technology, Systems and Multimedia discipline which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To develop an understanding of the principles and practices of systems analysis, translating user needs into software specifications. Students will concentrate on the procedural aspects of systems requirements determination and recording.

Content
Topics include: role of IS in organisations, systems development methods, fact finding techniques, business analysis and modelling.

References


**LAS310 IT Strategies and Project Management**

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: Any three Stage 2/3 subjects from the Information Technology discipline. • Assessment: Assignments, Examinations.

A Stage 3 subject in the Information Technology, Systems and Multimedia discipline which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
This course examines the relationship between information technology and its organisational context. An understanding of the tools, techniques and concepts of project management is essential.

Content
Students will study the ways in which information technology can be used for competitive advantage and planning methods that integrate information systems and business strategies. Students will also consider recent issues in outsourcing, client-server and other methodologies. Students develop an awareness of estimating and metrics approaches necessary for management of information systems and technology developments.

References

**LAS320 Software Engineering and CASE**

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LAC200 and LAS200 • Assessment: Assignments, Examinations.

A Stage 3 subject in the Information Technology, Systems and Multimedia discipline which may be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To advance the knowledge and concepts developed in LAS100 and LAS200, and to now develop design knowledge and the relationship of design to other systems development phases.

Content
Students concentrate on software development/engineering and on the latter stages of the systems development life cycle, particularly design, testing, quality, metrics, etc. In particular structured and object design, interface design and evaluation, implementation and maintenance. Students will be encountering CASE as their main software engineering and development platform (e.g. Oracle Designer 2000).

References

Oracle products as available and required.

**LBC100 Accounting 1**

12.5 Credit Points • 12 Weeks or equivalent • 4 Hours per Week • Lilydale • Prerequisite: Nil • Assessment: Examination, Tests, Group Assignment, Computer Based Tasks.

A Stage 1 subject in Bachelor of Business (Accounting) which may also be taken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To provide a basic introduction to accounting concepts, financial accounting, management accounting and financial management.

Content
Accounting theory and practice are examined in a historical cost accounting system. This subject includes the following topics:

- An introduction to accounting and financial statements.
- Revenue and expenses.
- Assets and liabilities.
- Cost classification.
- Cash flow statements, cost flow, profit analysis.
- Planning and evaluating merchandising activities.
- Internal performance evaluation.
- Working capital management.
- Capital structure and leverage.

References

LBC101  Accounting Fundamentals
12.5 Credit Points • 12 Weeks or equivalent • 4 Hours per Week • Lilydale • Prerequisite: Nil • Co-requisites: Nil • Teaching methods: 1.5 hour lecture and 1.5 hour tutorial per week • Assessment: Topic tests (2), Group assignment, Final exam
A Stage 1 subject in the Bachelor of Business (Accounting).

Aims & Objectives
This subject provides non-accounting majors with a basic introduction to the fundamentals and techniques of accounting with particular emphasis on using financial information for business decision making.

Content
Topics covered include:
- Basic financial report preparation – profit & loss statements and balance sheets.
- Cash – the life-blood of a business and basic cash flow statements.
- Analysis and interpretation of financial reports – profitability, liquidity, capital structure.
- Cost classifications – functional and behavioural.
- Cost behaviour – fixed and variable costs.
- Cost-volume-profit and break-even analysis.
- Margins and mark-ups – working with percentage calculations.
- Introduction to budgeting – sales, profit and cash forecasting.
- Project evaluation – feasibility study and choosing between alternative courses of action.

References

LBC200  Computer Accounting Systems
12.5 Credit Points • 12 Weeks or equivalent • 4 Hours per Week • Lilydale • Prerequisite: LBC100 • Assessment: Assignments, Computer Based Tasks, Examinations
A Stage 2 subject in the Bachelor of Business (Accounting) which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
The development of the accounting process as an information flow to provide the basis for management control and decision making.

Content
The computerised processing of information is examined and an accounting package for microcomputers is used to facilitate same. The accounting equation is re-examined in order to prepare the balance sheet and profit and loss statement. The control of cash, debtors, stock and fixed assets are included, as are balance day adjustments and bank reconciliation statements. The internal control implications of aspects of accounting systems are also assessed.

References
CCH Macquarie Dictionary of Accounting (Student version), CCH, (latest edition).

LBC201  Corporate Accounting
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LBC100, LBC200 • Assessment: Computer Based Assignment, Examination, Test
A Stage 2 subject in the Bachelor of Business (Accounting) which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
This subject seeks to introduce students to the fundamental principles and practice of corporate accounting. By examining a broad-based selection of topics that broadly correspond with the life-cycle stages of a company’s existence, students will become familiar with the practical implementations and applications of accounting rules in a corporate environment. On successful completion of this subject, students should be able to understand, describe and account for a range of financial events likely to be encountered in a corporate setting.

Content
The subject covers the following general topic areas:
- Corporate entities.
- Accounting for shares and debentures.
- Share capital reconstruction.
- Accounting for dividends and reserves.
- Acquisition of assets.
- Accounting for corporate investments – joint arrangements, consolidation accounting, equity accounting.
- Liquidation and winding-up.

References

LBC202  Management Accounting I
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LBC100, LBC200 • Teaching methods: Lecture, tutorial, exercises, assignments • Assessment: Examination, Tests
A Stage 2 subject in the Bachelor of Business (Accounting) which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To introduce students to the role of accounting in the planning and decision-making functions of the management process.

Content
Topics covered include:
- Basic cost concepts, cost-volume-profit analysis, cost allocation issues, budgeting, profitability analysis, and the analysis of costs for decision making.
- Focus on the relevance of accounting information to management information needs.
- To critically evaluate traditional management accounting theory and practice against the contemporary literature on activity-based costing and the new technologies.

References

LBC203  Computer Cost Accounting Systems
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LBC101, LBC100, LBC202 • Teaching methods: Lecture, tutorial, exercises, assignments • Assessment: Examination, Assignments
A Stage 2 subject in the Bachelor of Business (Accounting) which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To understand the characteristics and purposes of the main types of cost systems and how they provide information for costing products and services, for measuring the performance of managers and business segments and for making strategic decisions.

Content
Topics covered include job-order costing, overhead and activity based costing, process costing, costing in the service industries, standard costing, product costing and performance measurement in Just in Time systems, performance evaluation of business units, transfer pricing and cost of quality programs. A management information perspective will be taken and students will be encouraged to use computer based tools for problem solving.
LBC204  •  Financial Management 1

12.5 Credit Points  • 12 Weeks or equivalent  • 3 Hours per Week  •  Lilydale  
Prerequisite: All Lilydale core subjects (LCT101, LCT100, LG100, LG9100 and LBC100)  
Assessment: Assignments, Examinations, Texts.

A Stage 2 subject in the Bachelor of Business (Accounting) which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives

The objectives of this subject are:

• To provide students with an understanding of the key concepts of corporate finance.
• To develop in students the skills of analysis and evaluation required to apply the concepts of corporate finance to financial management.

Content

The course is structured from the point of view of orientating the student to the fundamentals of managing the financing and investment aspects of a business and covers the following specific topics:

• Concepts of valuation.
• Evaluation and selection of investment projects.
• Cost of capital.
• Sources of finance and financial intermediaries.
• Dividend policy.
• Financing methods and impact on capital structure.

References


LBC300  •  Accounting Theory

12.5 Credit Points  • 12 Weeks or equivalent  • 3 Hours per Week  •  Lilydale  
Prerequisite: LBC100, LBC200, LBC201, LBC202, LBC203, LBC204  
Assessment: Research Assignment, Tutorial tasks, Examination.

A Stage 3 subject in the Bachelor of Business (Accounting) which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives

LBC300 is a ‘capstone’ accounting subject that draws upon knowledge gained from earlier accounting subjects. In particular, students are required to apply and demonstrate insights derived from the areas of corporate accounting, management accounting and financial management. The subject seeks to instil in students a critical appreciation of contemporary accounting practice. It does this by locating the discipline of accounting into a wider context than that normally associated (or possible) with earlier accounting subjects. The subject syllabus is designed to demonstrate that accounting is a problematic discipline and that, as a result, accountants do not always conform to the logical ‘bean counter’ image that is sometimes ascribed to them. On successful completion of this subject, students should be able to understand, discuss and critically analyse a range of issues pertaining to financial accounting theory and regulation.

Content

Although individual topic areas can vary, the subject syllabus typically embodies the following general pattern of topic coverage:

• Regulatory framework.
• Accounting theory and Australia’s conceptual framework project.
• Wealth, income and alternative accounting systems.
• Accounting for income tax.
• Accounting for intangible assets.
• Accounting for non-current assets.
• Accounting for leases.
• Ethics in accounting.

References


LBC301  •  Taxation

12.5 Credit Points  • 12 Weeks or equivalent  • 3 Hours per Week  •  Lilydale  
Prerequisite: LBC100, LBC200  
Assessment: Assignments, Examination.

A Stage 3 subject in the Bachelor of Business (Accounting) which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives

The overall course objective is to develop in students an understanding of the Income Tax Assessment Act together with those acts which are complementary to the Assessment Act. Specifically, the course will:

• Familiarise students with recent court and Administrative Appeals Tribunal decisions in the area of income taxation.
• Develop research skills in students in relation to current and landmark taxation cases.
• Introduce students to the complexities of taxation in relation to various taxable entities.
• With the aid of income tax rulings and the aforementioned tax cases, develop in students an understanding of the basic concepts of income, capital, and the rules governing deductions.

It is recommended these students also complete LBL305 Advanced Taxation.

Content

Topics covered include the nature of assessable income, specific income types, source residency and derivation, eligible termination payments, capital gains tax, allowable deductions and the provisions relating to companies, partnerships, individuals and an introduction to Goods and Services Tax.

References

Australian Income Tax Assessment Act, CCH Australia Ltd, North Ryde, NSW.
Australian Master Tax Guide, CCH Australia Ltd, North Ryde, NSW.

LBC302  •  Auditing

12.5 Credit Points  • 12 Weeks or equivalent  • 3 Hours per Week  •  Lilydale  
Prerequisite: LBC100, LBC200, LBC201  
Assessment: Assignments, Examination.

A Stage 3 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives

The subject aims to familiarise students with the underlying concepts, objectives and reporting function of the auditor. The subject deals with both theoretical and practical aspects of auditing. The aim is to integrate the concepts of auditing with practical approaches taken by the auditor to ensure students gain a complete picture of the auditing process.

Content

Theoretical topics studied include auditing methodology and the formulation of auditing standards; audit independence; the rights, duties and legal liability of auditors; ethical considerations; the audit report and the concept of risk; materiality and audit evidence; encompassing a review of internal control structures and the attendant control risk. Consideration is given to the impact of EDP auditing techniques and different sampling methodologies. Students are also introduced to the area of public sector auditing.

References

Current auditing readings as required.
LBC303 Strategic Cost Management
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale
Prerequisite: LBC100, LBC203, LBC204 • Assessment: Assignments, Examinations, Tests, Practical Projects.
A Stage 3 subject in the Bachelor of Business (Accounting) which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
This is a final year subject designed to develop and integrate, within a strategic framework, the planning, control and decision-making techniques and skills introduced in management accounting and financial management.

Content
The topics explored in this subject are developed within the framework of an analysis of competitive strategy and the role of strategic management accounting. Through the use of the business case method, traditional approaches to project planning, product costing, product and customer profitability analysis and performance evaluation are questioned and alternative contemporary approaches evaluated. Contemporary developments in manufacturing technology and in the provision of services in the context of an increased focus on quality, customer service and world’s best practice in a global marketplace provide the context for a critical evaluation of management accounting responses to these challenges.

References

LBC304 Financial Management 2
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale
Prerequisite: LBC100, LBC204 • Assessment: Assignments, Examinations, Tests, Practical Projects.
A Stage 3 subject in the Bachelor of Business (Accounting) which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
The purpose of this subject is to help participants learn how to manage their money and develop the skills to be better able to advise others in managing their investments. More specifically, the course objectives are:

• To acquaint participants with the various avenues for the investment of funds, including shares, fixed-interest securities and property.
• To review the impact of taxation on investment planning.
• To consider the fundamental principles of modern portfolio theory.
• To consider the process of portfolio selection and ongoing investment strategies.
• To review the characteristics of financial futures and options and how they may be used to modify the risk-return profile of investment portfolios.

References

LBE100 Microeconomics
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale
Prerequisite: Nil • Assessment: Examination, Test, Tutorial tasks/tasks.
A Stage 1 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To introduce key microeconomic concepts and to encourage and assist students to apply economic reasoning to issues facing individuals, business, non-profit organisations and government.

Content
This subject introduces students to microeconomic concepts and their application within the framework of the Australian economy. The subject begins with the concepts of scarcity, choice and opportunity cost, then examines the role of markets in the allocation of resources and the distribution of output. It is followed by an examination of the firm's production, costs and revenues in a variety of market structures. The significance of microeconomic concepts for both business and government policy is emphasised throughout.

References

LBE200 Macroeconomics
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale
Prerequisite: LBE100 • Assessment: Assignment, Examination, Tests.
A Stage 2 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To provide students with an understanding and appreciation of macroeconomic concepts, issues and policies pertaining to the Australian and global economy.

Content
The subject begins with an introduction to the meaning and measurement of economic performance and the key concepts involved in evaluating that performance. It then considers the main determinants of the level of economic activity, using both an Aggregate Demand / Aggregate Supply and an Income / Expenditure framework. Issues relating to fiscal policy and public debt are also examined. The subject then explores the role of money and monetary policy and issues relating to the balance of payments and exchange rates. The subject concludes by comparing the views of various schools of thought concerning appropriate policy measures to deal with macroeconomic problems, including inflation and unemployment. This will enable students to evaluate the impact of government macroeconomic policy on individuals, business and the economy.

References

LBE201 Managerial Economics and Strategy
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale
Prerequisite: LBE100 and LCR100 • Assessment: Assignment, Examination, Text.
A Stage 2 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To show the relevance of microeconomic concepts to business decision making.

Content
This subject emphasises the practical application of economic concepts to the decision making processes of business and government, using case studies and problems as illustrations. Topics include demand analysis and forecasting, risk and uncertainty, information and decision making, optimal pricing, competitive strategies, project evaluation and an introduction to the principles of cost-benefit analysis.
References
Samuelson, W., Marks, S., Managerial Economics, 3rd edn., Dryden Press, Fort Worth, 1999.

LBE203 Environmental Economics
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale •
Prerequisite: LBE100 • Assessment: Assignments, Examinations.
A Stage 2 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
The main objective of this subject is to familiarise students with economic techniques that can be applied to problems of environmental and natural resource management.

Content
This subject is concerned with the relationship between the natural environment and economic activity. The subject begins by looking at the economics of the environment by considering market efficiency, market failure, valuing the environment, identifying economic and non-economic instruments for managing the environment, and related macroeconomic issues. Next, matters relating to the regulation of the environment at a Federal, State and Local Government level are examined. The subject concludes by exploring some specific environmental issues including greenhouse gases, water and energy.

References
LBE300 Economic Policy in Society
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale •
Prerequisite: LBE100, LBE200 • Assessment: Tutorial Facilitation, Essay, Examination.
A Stage 3 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To provide students with an understanding and appreciation of the interrelationships between economics, policy and society.

Content
This subject considers the ways in which economic analysis can contribute to the solution of policy issues which concern society, and the interaction between economic and non-economic aspects of such issues. Topics selected for particular attention include the nature and goals of policy; unemployment; income distribution; infrastructure, technology and growth; and taxation policy. Students may also choose to develop further topics in which they have a particular interest. Examples include health, education and privatisation.

References

LBE301 International Trade and Finance
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale •
Prerequisite: LBE100, LBE200 • Assessment: Assignments, Examinations, Tests.
A Stage 3 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To provide students with the theoretical and analytical skills necessary for the understanding and evaluation of international trade and financial issues.

Content
This subject begins with a consideration of some fundamental issues relating to international trade, including the basis for trade, gains from trade and the nature and effects of trade restrictions. This is followed by an examination of selected aspects of the international financial system. Attention is devoted to the historical development of the international financial system since the 1944 Bretton Woods Conference; the role, risks and regulations of international banking; the Euromarkets; the Third World debt crisis and country risk analysis. The subject concludes with an examination of the foreign exchange market in Australia. Other topics include forecasting and hedging techniques and the nature and role of swaps.

References
LBE302 Economic Development
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale •
Prerequisite: LBE100, LBE200 • Assessment: Assignments, Examinations, Tests.
A Stage 3 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To increase students’ awareness and understanding of conceptual and contemporary ‘Third World’ economic development issues and problems.

Content
The subject begins by examining the nature and meaning of economic development and its various manifestations. Particular attention is devoted to examining the characteristics of a ‘third world’ nation, reviewing various basic models and theories of development, and exploring the concepts of poverty, economic growth and economic development. The subject then concentrates on selected development problems and policies. Topics reviewed include population, human capital, agriculture, the environment, trade, foreign investment, the role of aid and the impact of third world debt. Finally the subject discusses how economic policy is constructed and implemented. Attention is devoted to issues relating to development planning, fiscal policy, the financial system and prospects for third world development.

References
LBL100 Introduction to Commercial Law
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale •
Prerequisite: Nil • Teaching methods: One 2 hour lecture and one 1 hour tutorial. •
Assessment: Class exercises (20%), Multiple Choice Test (20%), Open Book Final Exam (60%).
A Stage 1 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To introduce students to basic legal concepts.

Content
• The Australian legal system.
• The nature of contract.
• Making a contract.
• The terms of a contract.
• Vitiating a contract.
• Breach of contract.
• Remedies.

References
LBL200 Company Law
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale •
Prerequisite: LBL100 • Teaching methods: One 2 hour lecture and one 1 hour tutorial. •
Assessment: TBA.
A Stage 2 subject in the Bachelor of Business and Bachelor of Business (Accounting) which may also be undertaken in any other degree program at Swinburne, Lilydale.

Aims & Objectives
The intention here is to undertake a comparative analysis of the various forms of business organisations. This involves an introduction to partnership and company law.

Content
Topics covered include:
• Business Organisations.
• Partnerships.
Subject Details

LBM200 Marketing Behaviour
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LBM100 • Assessment: Assignments, Class Presentations, Examinations.
A Stage 2 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale. This subject is a mandatory requirement for a major sequence in marketing and is normally studied in semester 2 of year one.

Aims & Objectives
The objective of this subject is to study the process of choice in both consumer and business-to-business purchasing contexts, along with its determinants and its implications for marketing strategy.

Content
At the completion of the subject, students should have acquired an understanding of:
- The process of human decision making.
- The three main influences on consumer choice.
- The individual consumer environmental influence.
- Market strategy.
- The main influences impacting on business-to-business purchasing decisions:
  - The DMU (Decision Making Unit) or buying centre.
  - Organisational factors and constraints.
This subject allows second-stage students to explore basic human behaviour concepts and theories, as they relate to purchasing decisions in both consumer and business-to-business marketing areas. It emphasises the practical marketing implications of those behavioural concepts, through the study of:
- Consumers as individuals and in groups.
- Decision-making processes (consumer and organisational).
- Communication across groups.
- Communication and promotion forms.
It provides basic behavioural knowledge levels, which allow further development of marketing knowledge in later stage subjects.

References
Textbook to be advised. Other supporting material will be prescribed when appropriate. It is expected that extensive use will be made of the large collection of relevant material in the library, including books and current journals.

LBM201 Marketing Planning
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LBM200 • Corequisite: LIS201 (Marketing Major) • Assessment: Assignments, Class Presentations, Examinations.
A Stage 2 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale. It is a mandatory requirement for a major sequence in marketing.

Aims & Objectives
The objective of this subject is to examine the concepts of planning and strategy in marketing, the role and methods of strategic analysis, and issues related to strategy formulation, implementation and control. It focusses on the marketing planning process as a key tool in an organisation’s interaction with its environment.

Content
In the highly competitive and turbulent business world, it is particularly important for Australian companies to carefully analyse their strategic planning, sharpen their business analysis skills and see beyond the geographical or product-based boundaries of the markets in which they currently compete. Acquiring and maintaining competitive advantage by having a consistently superior business/marketing planning system will be one of the most vital strengths of successful businesses of the future. This subject gives students the opportunity to acquire a working understanding of various methods
of marketing planning and the ability to apply them appropriately in developing and implementing marketing strategies that respond to the challenges of the environment.

Specific aims:

- To allow students to consolidate and develop upon the concepts developed in LBM100 and LBM200.
- To enhance students’ capacity to critically analyse business situations from a marketing viewpoint.
- To give students a working understanding of the methods and concepts of strategy analysis and how these can be applied in practice.
- To expose students to a systematic approach to the development of marketing strategy and the program decisions needed to implement the overall marketing strategy.
- To further build students’ analytical and communication skills.

Discussion of prescribed articles forms a major part of the course. The emphasis on business report writing is continued, with more complex reports required. The major assignment requires formulation of a marketing plan for an organisation.

Framework:

- The structure and process of marketing planning.
- Sources of information in marketing planning.
- The external environment analysis the customer and the industry.
- The corporate appraisal.
- Analytical tools.
- Tools in marketing planning.
- Developing marketing objectives.
- Marketing programs.
- Product, promotion, distribution and price planning.

References


Textbook to be advised. Other supporting material will be prescribed when appropriate. It is expected that extensive use will be made of library resources.

LBM202 Marketing Communications

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per week • Lilydale • Prerequisite: LBM201 & LBZ200 (for Marketing major) • Assessment: Assignments, Class presentations, Examinations.

A Stage 2 subject which is a mandatory requirement for a major sequence in marketing and may also be undertaken in any other degree program at Swinburne, Lilydale. This subject is a mandatory requirement for a major sequence in marketing.

Aims & Objectives

The Marketing Communications industry is a rapidly growing sector of marketing. This subject explores the various promotional strategies utilised by marketers. It provides insights into how to adapt advertising, media, event management, public relations, sales promotion, and direct marketing policy and techniques to achieve campaign objectives and facilitate effective implementation.

Content

Topics include:

- The integrated marketing communication process.
- Planning the communication budget.
- Inside an advertising agency.
- Media relations.
- Public relations and publicity.
- Sales promotion.
- Direct marketing.
- International advertising.
- Evaluating the effectiveness of the communication strategy.

References


Textbook to be advised.

LBM300 Product Management

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LBM202 • Assessment: Assignments, Major Presentation, Examinations.

A Stage 3 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne, Lilydale. This subject is a mandatory requirement for a major sequence in marketing.

Aims & Objectives

Students enrolling in this subject come prepared with an understanding of basic marketing concepts and behaviour from first year studies which, for the major, have been enriched at second year level with the subjects Survey Research Methods, Market Behaviour, Marketing Planning and Marketing Communications. The objective of this subject is to enable students to apply their marketing knowledge to the specific area of product management. Specific objectives address product development issues from a management perspective (that is to say, with a lesser emphasis on other approaches such as economic, technical or purely creative). These areas are treated as contributory disciplines.

Content

- To explore the meaning, importance and function of the product management role in business today.
- To examine the impact of product management practices on the development of goods and services based products.
- To examine the range of concept-generating techniques used for new product development.
- To examine the means of evaluating new product ideas.
- To examine the preparation of a product, a product launch plan and its importance as a marketing control tool for new products, product maintenance and product ‘re-launches’.
- To understand the importance of product positioning within the target marketing process, branding, packaging and the importance of successful working relationships with advertising, marketing, research, promotion agencies, etc. in the product management process.
- To explore the international aspects of product management.
- To understand the importance of successful working relations within the organisation, particularly with sales, production, supply and research and development, in the product development process.

References


Textbook to be advised.

LBM301 Services Marketing and Management

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LBM202 for a major • Assessment: Assignments, Case Studies, Examinations.

A Stage 3 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne, Lilydale. This subject is a mandatory requirement for a major sequence in marketing.

Aims & Objectives

The services business is the fastest growing sector nationally as well as globally. This subject explores the major differences between the marketing of services as distinct from product marketing, and aims at providing students with special skills required to develop and implement marketing strategies in service businesses.

Content

Topics include:

- The external environment analysis the customer and the industry.
- The structure and process of marketing planning.
- Sources of information in marketing planning.
- The corporate appraisal.
- Analytical tools.
- Tools in marketing planning.
- Developing marketing objectives.
- Marketing programs.
- Product, promotion, distribution and price planning.

References


Textbook to be advised.

Swinburne University of Technology | Higher Education Handbook 2002
• Distinctive aspects of service marketing.
• Market research in services environment.
• Communication and services.
• Demand management.
• Service quality.
• Managing service culture.
• Implementing the service strategy.
• International services and its future.
• Investigating a service industry of your choice (e.g. financial services, hospital services, insurance industry, catering services, etc.).

References

LCL100 Learning and Communication Behaviour
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: Nil • Assessment: Class presentations, Examinations, Hurdle Test, Workshops.
A Stage 1 core subject in all degree programs at Swinburne Lilydale.

Aims & Objectives
On completion of this subject students will have increased competence in a range of skills such as concept mapping, time management, creative problem solving, team work, written and oral communication; presentation strategies, reading and notation techniques, critical thinking and analysis of arguments. They will use these skills to augment their studies in all disciplines, and be able to apply them to the workplace.

The subject provides students with opportunity for interdisciplinary study, drawing on themes from psychology, sociology, philosophy, education and business. It is presented from a Liberal Arts perspective on education and learning, in keeping with the Vision Statement for the Lilydale Campus of Swinburne University.

By developing awareness of the nature of knowledge, and ways in which it is generated, the subject also aims to foster development of active and independent learning styles, as well as a positive orientation to life long learning. Students should gain an appreciation of the relevance of both their skills, and the substantive themes of the subject, to their participation in the community, the workplace and the international arena.

Content
• Liberal Education and Learning Communities.
• Learning as an Individual and in a Group.
• The Structure of Knowledge.
• The Social Construction of Knowledge.
• Values and Ethical Frameworks.

References
Learning Guide for LCL 100, with References included. A Subject Outline is provided, with information on additional relevant texts.

LCR500 Statistics and Research Methods
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: Nil • Assessment: Examinations, Statistics Workbook, Class Test.
A subject in Graduate Diploma of Social Science (Psychological Studies).

Aims & Objectives
This unit is designed to introduce students to the research process and develop basic skills and appropriate methodology to collect, describe, analyze and present statistical data across a range of disciplines. No prior mathematical knowledge is assumed.

Content
The subject includes discussion of research design and data collection, techniques for picturing and analysing univariate and bivariate data, and a thorough discussion of statistical inference, in terms of both hypothesis testing and estimation (confidence intervals). The TI-83 graphics calculator is used to carry out statistical analyses, so that the focus of the unit can be the meaningful interpretation of results.

References

LCR100 Statistics and Research Methods
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: Nil • Assessment: Assignments, Examinations.
A Stage 1 core subject in all degree programs at Swinburne Lilydale.

Aims & Objectives
This unit is designed to introduce students to the research process and develop basic skills and appropriate methodology to collect, describe, analyze and present statistical data across a range of disciplines. No prior mathematical knowledge is assumed.

Content
The subject includes discussion of research design and data collection, techniques for picturing and analysing univariate and bivariate data, and a thorough discussion of statistical inference, in terms of both hypothesis testing and estimation (confidence intervals). The TI-83 graphics calculator is used to carry out statistical analyses, so that the focus of the unit can be the meaningful interpretation of results.

References

LCX300 International Business Strategies
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: Successful completion of the first two years of a degree. • Assessment: Test, Assignments, Oral Presentation.
A Stage 3 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
The aim of this multidisciplinary subject is to expose students to the culture and business practices of selected countries. Students travel abroad and visit various companies to experience first-hand a host country's business practices and observe and evaluate how they have achieved, or are pursing, their strategic objectives. Travel overseas is preceded by a series of seminars and briefing sessions. The travel costs will be borne by students.

Content
The subject begins by exploring three aspects of the environment in which an international business operates - the process of globalisation, the impact of differing political, economic, social and legal factors between countries and the implications culture has for business. Next, the development of business strategies across foreign markets, the nature of a company's structure and internal control mechanisms, and various methods of entering a foreign market are examined. Finally, attention is devoted to selected business functions - marketing, human resource management, finance and e-commerce - which all need to work in harmony if a corporate strategy is to be achieved. By travelling overseas and visiting a range of companies, students will better understand and appreciate the complex issues facing international business.

References

LCI101 Information Methods
12.5 Credit Points • 12 Weeks or equivalent • Lilydale • Prerequisite: Nil • Assessment: Examinations, Information Communication Project, Information Communication Analysis.
A Stage 1 core subject in all degree programs at Swinburne Lilydale.

Content
This subject will expand the use of information literacy through information technology literacy, in particular, spreadsheet, word processing, presentation management, information databases, Internet, etc. This subject covers information methods such as codification, storage, searching, communication, presentation and learning.

Information Methods requires a student to undertake studies and practical exercises that encourage skills and independent work in developing, manipulating and communicating information within a variety of global and cultural contexts.

Students are assumed to have successfully completed an introductory course in Information Technology Literacy (including Spreadsheet, Database, Word Processing and PowerPoint Presentation) before commencing this unit.

Textbook

References
LCT100  Science, Technology and Society

12.5 Credit Points  • 12 Weeks or equivalent  • 3 Hours per Week  • Lilydale  •  Prerequisite: Nil  •  Assessment: Continuous.

Aims & Objectives
To introduce students to fundamental concepts about science, scientific and technological change in the context of our emerging electronic society. Applications of communications technology by students will complement the conceptual framework of the subject.

Content
- Science, and scientific method.
- Science and technology in contemporary economies.
- Technological innovation and transfer.
- Historical modes of communication.
- Changing modes of communication: electronic society?
- Power bases: whose information revolution?
- Functional and institutional convergence: media, information technology and telecommunications.
- Forces for globalisation.
- Superhighways or superhighways?
- Cultural impact of new communications technologies.
- Changing communication process: ViPs - visual, intelligent, personal.
- Construction of society and new modes of communication: eg Internet, virtual reality.
- Threats: misuse of information, privacy, inequality.

References

LEB100  Accounting and Finance

12.5 Credit Points  • 12 Weeks or equivalent  • 3 Hours per Week  • Lilydale; Prahran  •  Prerequisite: Nil  •  Teaching methods: Groups will have lectures, discussions, reading and a variety of other learning activities.  Use will be made of electronic communication. Computer facilities and Internet access will be used.  •  Assessment: contributions to online conference boards, chat sessions, Internet based research projects and assignments, tests, case studies and examinations.  A subject in the Bachelor of Business (eCommerce).

Aims & Objectives
This subject has three aims:
- Provide the participant with the knowledge and skills to interpret accounting information and reports and to apply the knowledge to businesses with both a traditional and an eCommerce focus.
- Provide the participant with the knowledge and skills to apply mathematical techniques to a variety of business and eCommerce applications and decisions.
- Provide the participant with the knowledge and skills to interpret and use statistical techniques in a variety of business activities.

On completion of this subject, students will be able to:
- Describe the basic accounting concepts of assets, liabilities, equity, revenue and expense, and explain their relationship through the accounting equation.
- Describe the operation of the double entry bookkeeping system and analyse simple business transactions.
- Describe the purposes and formats of financial accounting reports.
- Explain the limitations of published accounting reports.
- Describe the environment and purpose of accounting standards.
- Calculate and interpret basic ratios for analysing financial statements.
- Define common costing concepts and describe the key features of conventional cost accounting systems.
- Explain the role of budgeting in financial planning and control and describe the budgeting process.


LEB101  The Marketing Concept

12.5 Credit Points  • 12 Weeks or equivalent  • 3 Hours per Week  • Lilydale; Prahran  •  Prerequisite: Nil  •  Teaching methods: Groups will have lectures, discussions, reading and a variety of other learning activities.  Use will be made of electronic communication and subject websites.  Computer facilities and Internet access will be used.  •  Assessment: contributions to online conference boards, chat sessions, Internet based research projects and assignments, tests, case studies and examinations. A subject in the Bachelor of Business (eCommerce).

Aims & Objectives
To provide an overview of the basic principles of marketing and illustrate the application of these core marketing concepts to a range of traditional, non-traditional, and electronic-based business activities.

On completion of the subject students will be able to:
- Identify and explain the evolution of the marketing concept.
- Identify the components of the strategic plan and the marketing plan and explain the relationships between the two.
- Analyse marketing information systems and describe their relationship with marketing research.
- Analyse an organisation’s macro (external) and micro (internal) environments.
- Explain the significance of consumer behaviour in consumer markets.
- Explain the significance of business-to-business (B2B) markets and describe B2B buying behaviour.
- Identify the bases for market segmentation and apply this information in selecting target markets and developing positioning strategies for those markets.
- Analyse the elements of the marketing mix and how they constitute the core of an organisation’s marketing system.
- Describe and apply appropriate planning, organising, controlling, implementation, and evaluation strategies.
- Analyse market applications in international, service, and non-profit markets.


**Content**

- Evolution of the marketing concept.
- Components of strategic and marketing plan.
- Marketing information systems.
- Macro and microenvironments.
- Introduction to consumer, industrial, international, and non-profit markets.
- Market segmentation, targeting, and positioning.
- Marketing mix.
- The application of eMarketing techniques to new and existing business sectors.

**References**


**Websites**


**Aims & Objectives**

The purpose of this subject is to develop skills and knowledge in managing internal and external customer relationships strategically and to develop an understanding of the importance and workings of business information systems.

On completion of the subject students will be able to:

- Identify and address the customer's product and service requirements.
- Analyse organisational cultures, philosophies, ethics and associated behaviour.
- Employ situational analysis to determine the impact of external influences on an organisation and identify success and failure factors.
- Conduct internal situational analysis of an organisation, business unit or functional division.
- Identify, generate, evaluate and select strategy alternatives for organisations.
- Recommend procedures and processes for the implementation, monitoring, maintenance and evaluation of selected strategies and performance.
- Explain the role and importance of business information processing in the context of eCommerce.
- Describe the inputs and outputs of business information systems and the relationship between them.
- Distinguish between management information systems and decision support systems.
- Identify your career aspirations and perform a related skills assessment.

**Content**

- International and external customer analysis.
- Managing customer service.
- Data warehousing and data mining.
- One-to-one marketing and business-to-business networking, call centres.
- Strategic management concepts, processes and techniques.
- Competitor analysis and key success factor analysis.
- Alternative strategies.
- Cultural, ethics and influence.
- Strategy implementation.
- Business information systems.

**References**


**Websites**

- Peppers and Rogers [http://www.1to1.com](http://www.1to1.com)
- Internet World Guide to One-to-One Web Marketing [http://www.1to1web.com](http://www.1to1web.com)
- Fastcompany.com [http://www.fastcompany.com](http://www.fastcompany.com)
• Multimedia applications and the eCommerce environment.
• Employment opportunities in multimedia.
• Writing for the web.
• Writing for interactive multimedia.

References

Websites
http://www.unisam.net.unisa.edu.au/learningconnection/resprocess/resources.htm

LEB104 Communication
12.5 Credit Points  • 12 Weeks or equivalent  • 3 Hours per Week  • Lilydale; Prahran  • Prerequisite: Nil  • Teaching methods: Groups will have lectures, discussions, reading and a variety of other learning activities, including role plays, case studies and presentations. Use will be made of electronic communication and subject web sites. Computer facilities and Internet access will be used. Assessment: case studies, written proposal, role plays, presentation and a written investigative report. A subject in the Bachelor of Business (eCommerce).

Aims & Objectives
The aim of this subject is to introduce the theoretical and practical aspects of communicating in an eCommerce environment, including team building, negotiation, problem-solving and intercultural communication. It also aims to introduce students to both the theoretical and practical aspects of presenting reports, in written and oral form, in both a traditional business and an eCommerce environment. The emphasis will be on writing and presenting a document investigating a specific issue. On completion of the subject students will be able to:

• Select strategies to establish a work team communication climate.
• Use communication skills necessary to organise and manage work teams.
• Represent work teams to others.
• Negotiate to achieve and agreed outcome.
• Define problem solving.
• Evaluate and implement solutions.
• Identify values, attitudes and behaviours related to intercultural communication and develop cultural sensitivity.
• Undertake problem analysis.
• Research material relevant to an issue.
• Analyse information and develop/identify solutions relating to an issue.
• Produce a document such as an investigative report, submission, proposal, or briefing notes.
• Deliver an oral presentation, including slides, based on the written document.

Content
• Operating system functions.
• Word processing fundamentals.
• Email handling.
• Spreadsheet fundamentals.
• Database fundamentals.
• The multimedia industry.
• Government policy in relation to multimedia.
• Multimedia applications and the eCommerce environment.
• Employment opportunities in multimedia.
• Writing for the web.
• Writing for interactive multimedia.

LEB105 eCommerce Fundamentals
12.5 Credit Points  • 12 Weeks or equivalent  • 3 Hours per Week  • Lilydale; Prahran  • Prerequisite: Nil  • Teaching methods: Groups will have lectures, discussions, reading and a variety of other learning activities, including role plays, case studies and presentations. Use will be made of electronic communication and subject web sites. Computer facilities and Internet access will be used. • Assessment: journal of internet sites, media articles, interviews, web site development project. A subject in the Bachelor of Business (eCommerce).

Aims & Objectives
The first aim of this subject is to enable students to identify current trends and developments in electronic commerce (eCommerce) in relation to SME's (Small to Medium Enterprises), recognise the importance of suitable marketing strategies and gain a practical understanding of electronic commerce technology and its implementation. The second aim is to provide the learner with a strategic and operational framework of how to plan, organise, develop, manage and control electronic supply chains. The third aim is to extend students' knowledge through selection and study of an eCommerce elective.

On completion of this subject students will be able to:

• Define and explain eCommerce and identify current trends and developments in relation to small and SMEs (small to medium enterprises).
• Discuss global legal and security issues in relation to electronic commerce.
• Explain the importance of marketing strategies in relation to eCommerce.
• Demonstrate a practical understanding of eCommerce and its implementation.
• Identify and analyse inter- and intra-company electronic business functions and communications and the application of extranet gateways to online B2B operations.
• Identify the role of strategic partnerships and alliances in facilitating eCommerce and eSupply chain management.
• Discuss procurement and identify the main issues and models of eProcurement.
• Identify the online tendering process.
• Identify the role of logistics and inventory management in an e-commerce framework.

Content
• Electronic commerce and its history.
• Strengths and weaknesses of eCommerce.
• Customer/merchant and merchant/merchant interaction in eCommerce.
• Managing change in eCommerce.
• Supply chain management.
• Advertising online services.
• Integrating and managing eCommerce in a business.
• Internet, intranet, and extranet company electronic functions and gateways.
• eProcurement and online tendering.
• Logistics and inventory management.
• Order and service fulfilment.
• EDI.
• Automating/digitising/outsourcing processes such as transport, warehousing, materials handling and packaging.
• Disintermediation and reintermediation.
• Supply and distribution channel design.
• International channel management.

References

Websites
This list of sites is by no means comprehensive and learners are encouraged to search for others (and to engage in chat sessions eg. http://www.delanews.com). Web page development and model sites: http://www.aspstrategies.com.au
Site management and traffic: http://www.webtrends.com.au
Full report on SME survey: http://www.aubc.org
Internet terminology and web usability features: http://www.dotparagon.com
Telstra’s shop software: http://isurelink.com.au
Internet advertising rates and services: http://www.admedia.org/Internet
Internet industry governing bodies: TIO – Telecommunications Industry Ombudsman.
ACCC – Australian Competition and Consumer Commission.
Office of Fair Trading.
Current magazines (eg. Interact and PC User).

LEB106 Business Law
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale/Prahran
Prerequisite: Nil
Teaching methods: Groups will have lectures, discussions, reading and a variety of other learning activities, including role-plays, case studies and presentations. Use will be made of electronic communication and subject web sites.
Computer facilities and Internet access will be used.
Assessment: case studies, tests, internet projects.

Aims & Objectives
Facilitate student learning of a sound knowledge of basic commercial law principles, basic contact law and a selection of specialty contracts, and basic consumer law principles applicable within an eCommerce environment. Introduce students to the nature and importance of occupational health and safety.

On completion of the subject students will be able to:
• Describe the historical origins of commercial law and the legal framework of business.
• Recognise the relevance of tortious liabilities in business.
• Demonstrate an understanding of the use of negotiable instruments as a means of exchange and the operation of the Financial Transactions Reports Act.
• Describe the formation, operation and termination of contracts.
• Demonstrate an understanding of the concept of property and the nature of mortgages including the rights and obligations of the parties.
• Delineate the types of insurance and explain the circumstances under which a claim on an insurer may be rejected.
• Describe the statutory provisions and principles relevant to the sale of goods which accountants are required to apply in the course of business.
• Describe and explain the principles of consumer protection legislation as it applies to contract law and specifically the rights and duties in relation to contracts with ‘consumers’.
• Discuss the operation of Part IV of the Trade Practices Act.
• Understand the legal process involved in the collection of debts and the rights and obligations of debtors and creditors.
• Delineate the types of legal protection available for intellectual property.
• Understand the legal issues and implications of occupational health and safety.

Content
• Origins of law and legal institutions.
• Civil liability.
• Business entities.
• Negotiable instruments.
• Financial transaction reports act.
• Contract law.
• Law of property and mortgages.
• Leases, franchises and hire purchase.
• Insurance.
• Sale of goods.
• Consumer protection legislation.
• Restrictive trade practices.
• Debt collection.
• Intellectual property.

References

Websites
Australian Legal Information Institute: http://www.austrlii.edu.au
Australian Competition and Consumer Commission: http://www.acc.gov.au
Domain Names: http://domainnotes.com/

LEB107 Issues in eCommerce 1
6.25 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale/Prahran
Prerequisite: Nil
Teaching methods: Groups will have lectures, discussions, reading and a variety of other learning activities, including role-plays, case studies and presentations. Use will be made of electronic communication and subject web sites.
Computer facilities and Internet access will be used.
Assessment: contributions to discussion, chat forums, internet research projects, case studies and tests.

Aims & Objectives
To provide students with elective studies of importance in eCommerce, including entrepreneurship and innovation, business planning, payment systems and business to consumer eCommerce.

On completion of the subject students will be able to:
• Discuss issues arising from elective studies.
• Demonstrate an understanding of the nature of the key concepts involved.
• Contrast the nature of activities under eCommerce with more traditional ways of doing business.

Content
Varies with elective chosen.

References
Kalakota, R., Robinson, M., e-Business: Roadmap for Success 2.0, Addison-Wesley
LEB108  Cultural Diversity and Ethics for eCommerce Professional Practice

6.25 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale/Prahran • Prerequisite: Nil • Teaching methods: Seminar series and discussions. Individual learning journal. Both TAFE and Higher Education staff will be involved. • Assessment:contributions to discussion, chat forums etc., reflective journal, research project.
A subject in the Bachelor of Business (eCommerce).

Aims & Objectives
To enable students to understand the importance and role of culture and ethics in eCommerce professional practice. Students will have the opportunity to attend a series of seminars with industry representatives and professional experts describing and discussing the impact of cultural and ethical issues in the context of eCommerce. Students will develop critical and analytical skills as well as theoretical understandings as a foundation for subsequent subjects and projects. Students will complete a small research project exploring facets of cultural and ethical issues in eCommerce.

Content
To be selected from contemporary issues and available seminar presenters.

References
In addition students will be directed to relevant web sites and encouraged to research other online resources.

LEB200  Economics and Finance

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale/Prahran • Prerequisite: LEB102 eCommerce Management 1 or equivalent • Teaching methods: Groups will have lectures, discussions, reading and a variety of other learning activities. Use will be made of electronic communication. Computer facilities and Internet access will be used. • Assessment: contributions to online conference boards, chat sessions, internet based research projects and assignments, tests, case studies and examinations.
A subject in the Bachelor of Business (eCommerce).

Aims & Objectives
To provide students with an opportunity to develop a knowledge of the economic environment within which a business operates and to take account of globalisation and an increasing international business focus.

On completion of this subject, students will be able to:

- Describe the economic problem, classify economic systems and identify contemporary changes in systems.
- Apply simple demand and supply analysis.
- Identify the characteristics of economic markets and interferences.
- Explain the role of financial institutions and the nature of money.
- Explain the reasons for trade between countries, the characteristics of Australia’s international trading position and how it influences the economy.
- Understand the implications of eCommerce for traditional business and the changing nature of the business world.
- Use short-term decision making techniques to solve a variety of problems.
- Use longer-term decision making techniques of capital investment analysis.

Content
- The basic economic problem.
- Economic systems.
- Demand, supply, and equilibrium.
- Market structures.
- Financial institutions and the nature of money.
- International trade including balance of payments and exchange rates.
- Macro-economic model, objectives, and policies.
- Unemployment and inflation.
- Monetary and fiscal policy.
- Economic growth.
- Globalisation and the eCommerce economy.
- External eCommerce factors affecting decision making.
- eCommerce operating cycles.
- Payment and security online.
- Principles of cost benefit analysis.
- Cost/volume/profit relationship.
- Incremental costs.
- Constraints.
- Pricing decisions.
- Special orders.
- Changing product mix.
- Make or buy decisions.
- Long term decision making.
- Techniques of capital investment analysis.

References
In addition students will be directed to relevant web sites and encouraged to research other online resources.

Websites
Introductory articles
http://www.crmproject.com/
Peppers and Rogers: http://www.1to1.com/
Good framework, whitepaper:<http://www.xchange.com/default.asp>
Customer value and segmentation:<http://www.crm-forum.com/>
Supplier with good papers and articles:<http://www.pointinfo.com/dynamic/Site/UK company survey>
Useful downloads:<http://www.microsoft.com/europe/industry/crm/strategicpresentations/2211.htm>
Students will be encouraged to research other online resources.

LEB201  eMarketing and Customer Relationship Management

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale/Prahran • Prerequisite: LEB102 eCommerce Management 1 or equivalent • Teaching methods: Groups will have lectures, discussions, reading and a variety of other learning activities. Use will be made of electronic communication. Computer facilities and Internet access will be used. • Assessment: contributions to online conference boards, chat sessions, internet based research projects and assignments, tests, case studies and examinations.
A subject in the Bachelor of Business (eCommerce).

Aims & Objectives
To enable students to use information and technology to understand, categorise, manage and market to customers, and to understand the impact of customer relationship management on the eCommerce organisation.

On completion of this subject students will be able to:
Students will be encouraged to research other online resources.

Useful downloads:
- [http://www.brsilver.com/ecrm.htm](http://www.brsilver.com/ecrm.htm)
- [http://www.microsoft.com/europe/industry/crm/strategicpresentations/2211.htm](http://www.microsoft.com/europe/industry/crm/strategicpresentations/2211.htm)
- [Supplier with good papers and articles: http://www.pointinfo.com/dynamic/Site](http://www.pointinfo.com/dynamic/Site)
- [Download good whitepaper that discusses customer value and segmentation: peoplesoft/vantive](http://www.peoplesoft/vantive)
- [Good framework, whitepaper, etc.: http://www.xchange.com/default.asp](http://www.xchange.com/default.asp)
- [Peppers and Rogers: http://www.1to1.com/](http://www.1to1.com/)
- [Supplier with good papers and articles: http://www.pointinfo.com/dynamic/Site](http://www.pointinfo.com/dynamic/Site)
- [Useful surveys of UK companies: http://www.microsoft.com/europe/industry/crm/strategicpresentations/2211.htm](http://www.microsoft.com/europe/industry/crm/strategicpresentations/2211.htm)
- [Useful downloads: http://www.brsilver.com/ecrm.htm](http://www.brsilver.com/ecrm.htm)

Students will be encouraged to research other online resources.

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**LEB202  eCommerce Management 2**

12.5 Credit Points  •  12 Weeks or equivalent  •  3 Hours per Week  •  Libydale/Prahran  
**Prerequisite:** LEB102 eCommerce Management 1 and LEB105 Introduction to eCommerce or equivalent  
**Teaching methods:** Groups will have lectures, discussions, reading and a variety of other learning activities. Use will be made of electronic communication. Computer facilities and Internet access will be used.  
**Assessment:** contributions to online conference boards, chat sessions, Internet based research projects and assignments, tests, case studies and examinations.

A subject in the Bachelor of Business (eCommerce).

**Aims & Objectives**

The first aim of this subject is to enable students to gain the knowledge and develop the skills to plan, develop and implement strategies, including effective human resource strategies, to manage change for individuals and work teams in an eCommerce environment. The second aim of this subject is to enable students to identify key information technologies for gathering, storing, accessing and disseminating information in an eCommerce information and knowledge management system.

On completion of this subject students will be able to:

- Develop strategic options to manage change.
- Describe and match future requirements with appropriate resource allocation.
- Develop a work culture consistent with eCommerce needs.
- Implement agreed change strategies and monitor their effectiveness.
- Explain the development of management database systems and data access.
- Describe methods of gathering information online.
- Explain how the use of eCommerce information and knowledge management systems maximises business potential, and make recommendations to improve information systems.
- Describe security and control issues as well as the ethical challenges involved in using eCommerce information technologies.

**Content**

- Analysis of work team needs - internal and external environment.
- Planning and developing strategies for future needs and for implementing and managing change.
- Managing impediments to change.
- Developing and implementing strategies for appropriate allocation of financial, technological and human resources to support change.
- Developing and managing a team culture that supports change and enables eCommerce activities.
- Management of information.
- Database development, integration and access.
- Gathering online information.
- Maximising the potential of information and knowledge.
- Security, control and ethical challenges using eCommerce information technologies.

**References**


**LEB202  eCommerce Management 2**

12.5 Credit Points  •  12 Weeks or equivalent  •  3 Hours per Week  •  Libydale/Prahran  
**Prerequisite:** LEB102 eCommerce Management 1 and LEB105 Introduction to eCommerce or equivalent  
**Teaching methods:** Groups will have lectures, discussions, reading and a variety of other learning activities. Use will be made of electronic communication. Computer facilities and Internet access will be used.  
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**Content**

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- Managing impediments to change.
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- Developing and managing a team culture that supports change and enables eCommerce activities.
- Management of information.
- Database development, integration and access.
- Gathering online information.
- Maximising the potential of information and knowledge.
- Security, control and ethical challenges using eCommerce information technologies.

**References**


**LEB202  eCommerce Management 2**

12.5 Credit Points  •  12 Weeks or equivalent  •  3 Hours per Week  •  Libydale/Prahran  
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**Teaching methods:** Groups will have lectures, discussions, reading and a variety of other learning activities. Use will be made of electronic communication. Computer facilities and Internet access will be used.  
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A subject in the Bachelor of Business (eCommerce).

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- Describe methods of gathering information online.
- Explain how the use of eCommerce information and knowledge management systems maximises business potential, and make recommendations to improve information systems.
- Describe security and control issues as well as the ethical challenges involved in using eCommerce information technologies.

**Content**

- Analysis of work team needs - internal and external environment.
- Planning and developing strategies for future needs and for implementing and managing change.
- Managing impediments to change.
- Developing and implementing strategies for appropriate allocation of financial, technological and human resources to support change.
- Developing and managing a team culture that supports change and enables eCommerce activities.
- Management of information.
- Database development, integration and access.
- Gathering online information.
- Maximising the potential of information and knowledge.
- Security, control and ethical challenges using eCommerce information technologies.

**References**

Aims & Objectives
The first aim of this subject is to enable participants to develop an understanding of the various eCommerce models and the risk profiles for these models. Participants will also be introduced to the requirements of effective eCommerce strategy development and implementation. The second aim of this subject is to enable students to gain the necessary knowledge and to develop the skills required to manage resources and complete projects, including eCommerce projects, within the specified parameter of operations management.

On completion of this subject students will be able to:
• Describe and analyse eCommerce business models.
• Analyse the requirements and risks of business processing, re-engineering and transformation of the organisation to meet the needs of eCommerce.
• Develop strategies for eCommerce.
• Assess the scope of change required for the successful implementation of eCommerce initiatives, and how associated risks are managed.
• Assess the scope of change required for successful implementation of eCommerce initiatives.
• Describe the nature and functions of project management.
• Use project management techniques to document and monitor the progress of a project.
• Estimate and establish resources required for a project.
• Evaluate the outcome of a project.

Content
• eCommerce business models.
• Business process reengineering.
• Technology, organisational structure and risk analysis.
• Outsourcing, competitive advantage, competitive intensity.
• Value chain analysis.
• Decision support systems, information systems and data warehousing.
• Project management.
• Stages in project management.
• Project planning software.
• Decision, planning and control methods.
• Total quality control systems.
• Performance evaluation and review techniques.

References
Mendeloff, Mantel, Project Management Techniques, Wiley.

LEB205 Issues in eCommerce 2
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale/Prahran
Prerequisites: LEB108 Business Law
Teaching methods: Groups will have lectures, discussions, reading and a variety of other learning activities, including role-plays, case studies and presentations. Use will be made of electronic communication and subject web sites. Computer facilities and Internet access will be used. Assessment: case studies, tests, contributions to discussion, chat forums etc., Internet research projects. A subject in the Bachelor of Business (eCommerce).
Aims & Objectives

To facilitate students as they develop a knowledge of basic legal, security, ethical and policy issues associated with eCommerce. To enable students to develop the skills to allow them to identify and define commercially viable trends and opportunities arising from the Information Technology marketplace.

On completion of the subject students will be able to:
- Discuss the legal implications of borderless, paperless trade.
- Examine the security concerns of private citizens and business engaging in eCommerce and the proposed range of practical strategies and solutions.
- Determine the issues and concerns of globalisation and eCommerce.
- Describe the importance of privacy protection while trading online and examine the relevant legislation.
- Identify key historical and current forces for change and shaping future information technology trends.
- Describe current trends in the Information Technology industry and the opportunities that exist within other Australian industries.
- Formulate possible future opportunities that may develop from the changes and trends in Australia today.
- Explain income measurement and accrual accounting and prepare accounting worksheets to assess financial viability.

Content

- Legal implications of borderless, paperless trade.
- Security issues for transactions and information.
- Technical aspects of security.
- Designing an IT security framework.
- Ethical issues of globalisation.

References


Websites

Australian Privacy Charter Council <http://www.anu.edu.au>
Australian Law Information Institute <http://www.austlii.edu.au>
Australian Copyright Council <http://www.copyright.org.au>
The Australian Competition and Consumer Commission <http://www.accc.gov.au>
International Computer Security Association <http://www.iscs.org>
The OECD <http://www.oecd.org>
RSA Data Security <http://www.rsa.com>
Cookie Central site <http://www.cookiecentral.com>
Internet Industry Association of Australia <www.iiia.net.au>
Electronic Frontiers Australia <wwwefa.org.au>
Privacy International <http://www.privacyinternational.org>
Electronic Privacy Information Centre (EPIC) <www.epic.org>
Computer Emergency Response Team (CERT) <www.cert.org>

Statutes

Electronic Transactions Act 1999 (Cth)
Electronic Transactions Acts of respective States and Territories

Privacy Amendment (Private Sector) Bill 2000 (Cth)
Copyright Amendment (Digital Agenda) Bill 1999 (Cth)

LEB206  eCommerce Project

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale, Prahran
Prerequisite: Completion of first year subjects and at least two second year subjects.
Teaching methods: Groups will have discussions, reading and a variety of other learning activities, case studies and presentations. Use will be made of electronic communication and subject web sites. Computer facilities and Internet access will be used. Assessment: Contribution to group activities and discussion. Project assessment as negotiated in an individual or team learning contract.
A subject in the Bachelor of Business (eCommerce).

Aims & Objectives

This subject provides students with an opportunity to complete a project either relating to managing multimedia projects or to design and build an eCommerce solution. The balance between design, management and building within any project will be negotiated with the staff involved, taking into account the time and software available.

On completion of the subject students will be able to:
- Manage all phases of a simple multimedia or eCommerce solution project.
- Research the necessary information to be informed by the work of others and to provide a sound conceptual basis for the selected project.
- Write up and present the project or proposal and detailed management plan.
- Explain the ‘proof of concept’ phase of a project design.

Content

- Reference search - literature and web based.
- Project selection, scoping and specification.
- Project management planning.
- Design and building.
- Project implementation.

References

To be searched and reviewed by the student group. The relevant references will vary depending on the selected project, but earlier subject references list may provide a useful starting point.

LEB207  Social and Sustainability Issues for eCommerce Professional Practice

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale, Prahran
Prerequisite: LEB108 eCommerce Professional Practice 1  Teaching methods: Seminar series and discussions. Individual learning journal. Both TAFE and Higher Education staff will be involved. Assessment: case studies, contributions to discussion, chat forums etc., learning journal.
A subject in the Bachelor of Business (eCommerce).

Aims & Objectives

Using a case study approach, the seminars will present students with a range of practical and theoretical insights and tools for understanding social, cultural, sustainability and ethical issues in eCommerce.

Students will have the opportunity to participate in seminars with industry representatives and professional experts to discuss, analyse and critique eCommerce practices and experiences.

A journal documenting students’ ongoing analysis, critique and insights of their learning journey will enable them to reflect on their progress.

Students will undertake a case study to examine and illustrate the complexities of social, sustainability and ethical questions that need to be addressed in eCommerce professional practice.

Content

To be selected from contemporary issues and available seminar presenters.

References

LEB300 Managing the Transition to Global Business

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale, Prahran

Prerequisite: Completion of at least fourteen first and second year subjects. Teaching methods: This subject may be studied using different combinations of the following learning resources and activities to form a flexible learning approach for each student. Students may choose a combination that suits their location, timing, commitments and style of learning from the following resources: subject outline and learning guide in print, online learning resources, seminars including team based activities, independent study and syndicate activities, electronic synchronous or asynchronous discussions, email communication, telephone or fax individual consultation, negotiated work-based assessment tasks, learning contract framework to negotiate flexible learning approach.

- Assessment: short individual issue, insight and reflection papers, research paper, a critical appraisal of eCommerce models, syndicate application of critical analysis to a global business.

A subject in the Bachelor of Business (eCommerce).

Aims & Objectives

eCommerce is a key element in the globalisation process. Understanding this requires a sound knowledge and appreciation of the theoretical and practical issues in managing organisational transitions to new global business practices and environments. The focus will be on helping students understand the nature of the new global marketplace, particularly issues of access and equity. The ideological underpinnings of eCommerce and worldwide markets will be examined in some detail. It also examines the nature, the implications and the consequences of adopting online strategies, activities and eCommerce business performance.

After completing this subject students will be able to:

- Describe the technological, economic and political bases of eCommerce.
- Explain the process and importance of strategic thinking in eCommerce.
- Map designs of eCommerce models.
- Prepare a strategic business plan, including an eCommerce model.
- Critically evaluate eCommerce business performance.
- Assess the social consequences of the transition from local to global business practices and the responsibilities entailed for all stakeholders.

Content

- Transition to the eCommerce environment: a conceptual model.
- Financial aspects of eCommerce transitions and measuring performance.
- Strategic planning to leverage eMarketing, CRM and eCommerce models.
- Strategic management of innovation and change: integrating technology, eMarketing and eCommerce processes.

References


Students will be directed to relevant web sites and encouraged to research other online resources.
LEB302 | Business Information Systems and Technology for Managers

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale, Prahran
Prerequisite: Completion of at least fourteen first and second year subjects. Teaching methods: This subject may be studied using different combinations of learning resources and activities to form a flexible learning approach for each student. Students may choose a combination that suits their location, timing, commitments and style of learning. There will be an emphasis on workshop/laboratory sessions with access to computer facilities. Students will be required to participate regularly for extended periods of time in both structured and unstructured syndicate sessions in these laboratories, and to carry out a variety of activities within these sessions. Assessment: short individual presentations or demonstrations, syndicate report on technological innovations and issues, syndicate eBusiness application, design or implementation plan, examination.

A subject in the Bachelor of Business (eCommerce).

Aims & Objectives
This subject aims to provide a practical strategic and operational orientation to the effective management of information resources, new technologies and communication networks. Emphasis is placed on the innovative and cost effective use and application of web based information technology necessary to remain competitive in any eBusiness enterprise. After completing this subject students will be able to:

- Describe available online technologies and their impact on business.
- Classify system tools and relate these to the architecture model of eBusiness solutions.
- View demonstrations of common system tools and discuss their application.
- Apply basic internet tools and other information technology relevant to eBusiness.
- Understand the principles of managing electronic data and business security.
- Understand the implications of Internet technologies on the workplace and be able to identify the appropriate integration strategies.

Content
Key eBusiness enabling technologies and infrastructure, systems and architecture, resources, roles and relationships.

- Basic concepts, principles, applications and implementation of business process engineering.
- eBusiness applications, customer support management, market research, electronic payment, support and service, impact on organisations, individuals and society.
- Using IT and multimedia systems: integrated information systems, decision support systems and intelligent support systems, data and knowledge management.
- Managing IT, including cost benefit analysis of alternatives, total costs of ownership, supplier management and technology trend monitoring.

References


Students will be directed to relevant websites and encouraged to research other online resources.

LEB303 | eCommerce Due Diligence, Negotiations, Deals and Mergers: eCommerce Application Laboratory

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale, Prahran
Prerequisite: Completion of at least fourteen first and second year subjects. Teaching methods: Students will undertake a mixture of seminars, syndicate work, laboratory sessions, demonstrations and role-plays in a simulated work environment. Assessment: individual insights and reflection papers, syndicate work-based application strategy, research paper.

A subject in the Bachelor of Business (eCommerce).

Aims & Objectives
This subject uses a simulated eCommerce work environment to enable students to gain practical `real world` experience in the development of skills relating to due diligence, commercial negotiations, deal structuring, mergers and acquisitions.

On completion of this subject students should have a strong grounding in how to:

- Choose between building applications in-house or outsourcing, partnering, acquiring technology or content.
- Make decisions relating to selection of partners, suppliers, affiliates.
- Conduct due diligence on various options, preparing a framework of evaluation.
- Develop risk management/mitigation strategies.
- Undertake commercial negotiations and deal structuring.

Content
- Decision making: in-house or outsourcing.
- Selection: partners, vendors, affiliates.
- Due diligence: relevance and process.
- Commercial negotiations and deal structuring.
- Mergers and acquisitions.

References


Hanson, W., Principles of Internet Marketing, South-Western College Publishing, Cincinnati, Ohio, 2000.


In addition students will be directed to relevant websites and encouraged to research other online resources.
LEB304  Entrepreneurship and Innovation for Competitive Advantage: eCommerce Design Laboratory

Aims & Objectives
This subject is one in a suite of three laboratory based subjects that aim to build upon the students’ prior knowledge and experience to give them a ‘hands-on’ opportunity to apply a range of techniques, tools and processes essential to the current practice of eCommerce. In this subject a simulated work environment will be used to enable students to gain practical ‘real world’ experience in innovation and entrepreneurial activity for competitive advantage.

On completion of this subject students should be able to:

- Map the concept of competitive advantage and relate it to eCommerce innovation.
- Identify the basic characteristics, capabilities and limitations of various computer hardware and software in relation to eCommerce models with potential for entrepreneurial activity for competitive advantage.
- Work creatively in an eCommerce working environment.
- Distinguish between innovation and entrepreneurship.
- Creatively apply the tools and techniques learnt in the other subjects to successfully develop, prepare and implement an entrepreneurial eCommerce project.

Content
- Entrepreneurship and competitive advantage.
- Familiarity with eCommerce work environments and industries.
- Practical experience generating and evaluating innovative proposals.
- Practice in the use of eCommerce tools for the development or assessment of new products or services.

References
Hanson, W., Principles of Internet Marketing, South-Western College Publishing, Cincinnati, Ohio, 2000.

LEB305  Managing Strategic Cost and Performance: eCommerce Analysis and Measurement Laboratory

Aims & Objectives
This subject is one in a suite of three laboratory based subjects that aim to build upon the students’ prior knowledge and experience to give them a ‘hands-on’ opportunity to apply a range of eBusiness techniques, tools, processes, strategies and products. In a simulated eBusiness work environment students will gain practical ‘real world’ experience in building a balanced business scorecard, cost and activity analysis and development of key performance indicators, commencing business, stock market performance, business planning and decision making.

On completion of this subject students should be able to:

- Understand the financial nature of business in relation to operating, generating wealth and stockmarket performance.
- Map a balanced business scorecard for a small business.
- Understand the importance of profitability and cash flow management.
- Identify the basic characteristics, capabilities and limitations of various computer hardware and software that may be used to facilitate strategic cost management.
- Undertake analysis and measurement design activities in relation to hypothetical but realistic eCommerce business models.
- Explain the potential benefits of effective strategic cost and performance management.
- Design a simple strategic cost system to focus attention and improve performance in an eCommerce process or business.

Content
- Understanding business.
- Balanced business strategic planning: building a balanced scorecard.
- Activity based costing, budgeting and activity based management.
- Profit planning and short run decisions.
- Lifecycle costing and cash flow management.
- Asset allocation.
- Strategic supply chain and value chain analysis.

References
Hanson, W., Principles of Internet Marketing, South-Western College Publishing, Cincinnati, Ohio, 2000.
LEB306  eCommerce Product Development and Management

12.5 Credit Points  12 Weeks or equivalent  3 Hours per Week  • Lillidale, Prahran  
Prerequisite: Completed first and second year  • Teaching methods: This subject may be studied using different combinations of the following learning resources and activities to form a flexible learning approach for each student. Students may choose a combination that suits their location, timing, work commitments and style of learning from the following resources. There will be an emphasis on workshop/laboratory sessions with access to computer facilities. Students will be required to participate regularly for extended periods of time in both structured and unstructured syndicate sessions in these laboratories, and to carry out a variety of activities within these sessions.  • Assessment: Short individual papers on eMarketing trends and issues, Individual online marketing portfolio assessing examples of good practice product management or customer relationship management, Syndicate project and presentation.

A subject in the Bachelor of Business (eCommerce).

Aims & Objectives

This subject recognises that many eCommerce ventures result in product development and that ongoing product management is a key drive of business success.

After completing this subject students will be able to:

- Describe the process of product development arising from eCommerce.
- Outline and apply the principles of marketing to a product.
- Distinguish between product development and product marketing.
- Explore the key areas of target market segmentation, market analysis, commercial release of eProducts, usability testing and evaluation, branding, pricing strategy and tactics, market planning and control, proposal presentation, product management methodologies and best practice.

Content

- Nature of eProduct development and project management.
- Principles of eMarketing.
- Ongoing product management.
- Customer relationship management.

References

Peppers, D., Rogers, M., The One to One Manager, Doubleday, USA, 1999.
Peppers, D., Rogers, M., Enterprise One to One, Doubleday, USA, 1999.

In addition students will be directed to relevant web sites and encouraged to research other online resources.

LEB307  Managing People in an eCommerce Environment

12.5 Credit Points  12 Weeks or equivalent  3 Hours per Week  • Lillidale, Prahran  
Prerequisite: Completed first and second year  • Teaching methods: This subject may be studied using different combinations of the following learning resources and activities to form a flexible learning approach for each student. Students may choose a combination that suits their location, timing, commitments and style of learning from the following resources: Subject outline and learning guide in print, plus online learning resources; seminars including team based activities; independent study and syndicate activities; face to face, electronic synchronous or asynchronous discussions; eMail communication; telephone or fax individual consultation; negotiated work-based assessment tasks and learning contract framework to negotiate flexible learning approach.  • Assessment: Short papers, individual insights and reflection papers, innovations paper (individual), syndicate change strategy project.

A subject in the Bachelor of Business (eCommerce).

Aims & Objectives

This subject focuses on the need for the integrated management of people, technological innovation and change processes as a crucial success factor in the eCommerce environment. It is argued that the diffusion of eCommerce is largely driven by innovative electronic enabling technologies that are facilitating a paradigmatic shift in how we perceive and operate businesses globally. Practical approaches to managing, motivating and leading technical professionals, project and operational teams, who work within innovative and technologically oriented organisations, are emphasised.

After completing this subject, students will be able to:

- Explain the characteristics of the learning organisation and relate its importance to other systems and processes of an eCommerce.
- Identify the importance of systems thinking for organisations wishing to adopt a more integrative approach to managing people, technology and change.
- Describe a range of intervention strategies to promote and implement technological innovation and change in an eCommerce environment.
- Diagnose, design and develop a strategic change intervention in an eCommerce.
- Discuss the importance of organisational politics and business ethics when implementing technological innovation and change.

Content

- Integrated eCommerce models for managing people, technology, innovation and change.
- Change, innovation and diffusion in organisations.
- The learning organisation, systems thinking and the learning leader.
- Managing technologically enabled relationships.
- Case studies of managing in technological innovation, people, processes and systems.

References

Wilson, M., Getting the Most from Consultants, Pitman, Melbourne, 1996.

In addition students will be directed to relevant web sites and encouraged to research other online resources.

LEB500  Managing the Transition to eCommerce

12.5 Credit Points  12 Weeks or equivalent  30 Hours or equivalent  • Lillidale  
Prerequisite: Nil  • Assessment: Short papers: eCommerce model, thinking styles, one page plan, research background for an eCommerce issue, work-based application, strategic plan or project management plan.

A subject in the Graduate Certificate of Business (eCommerce and Communication).

Aims & Objectives

This subject will take a theoretical and practical approach to introducing workplace managers to the issues arising during the transition to eCommerce. It will focus in particular on strategic planning, team and self-management in eCommerce workplace situations.

On completion of this subject students will be able to:

- Describe and apply techniques for managing in an eCommerce environment.
- Understand the issues relating to successful transition from traditional to eCommerce practices.
- Prepare a strategic business plan, including an eCommerce model.
- Prepare a project management plan for an eCommerce transition.
- Explain the processes and importance of people skills in a virtual workplace.

Content

- Managing change, innovation and sustainability, and managing oneself.
- eCommerce modelling and strategic eCommerce planning.
- The virtual workplace - teams, coaching and leadership.
• Project and risk management.

References

In addition students will be directed to relevant web sites and encouraged to research other online resources.

LEB501 Communication and Electronic Culture

12.5 Credit Points • 12 Weeks or equivalent • 30 Hours or equivalent • Lilydale
Prerequisite: Nil • Assessment: short papers or presentations, evaluation of selected web sites, best practice pointers report.
A subject in the Graduate Certificate of Business (eBusiness and Communication).

Aims & Objectives
This subject investigates in a theoretical and practical way the changes in communication practices in the workplace and in business as the result of computerisation. A particular focus will be the impact of global communications tools (such as the Internet) on local communications practices.

After completing this subject, students will be able to:
• Understand new communications paradigms, in particular print to on-line modes.
• Use electronic deliveries for excellent on-line communication at both a personal and business level and develop a practical understanding of on-line communication strategies.
• Understand the conceptualisation, development and implementation of programs for learning and training in the information age.
• Produce specific case studies in effective on-line communication.

Content
• New Communications Paradigm - Print to On-line.
• Textuality to Discourse in Cyberspace.
• Excellent Online Communication.
• Developing Online Communications Strategies.

References

In addition students will be directed to relevant web sites and encouraged to research other online resources.

LEB502 Business Information Systems and Technology for Managers

12.5 Credit Points • 12 Weeks or equivalent • 30 Hours or equivalent • Lilydale
Prerequisite: Nil • Assessment: short presentations, reports, eBusiness application, design, implementation plan or report.
A subject in the Graduate Certificate of Business (eBusiness and Communication).

Aims & Objectives
This subject aims to provide a practical strategic and operational orientation to the effective management of information resources, new technologies and communication networks. Emphasis is placed on the innovative and cost effective use and application of web based information technology necessary to remain competitive in any eBusiness enterprise.

After completing this subject students will be able to:
• Describe available online technologies and their impact on business.
• Classify system tools and relate these to the architecture model of eBusiness solutions.
• View demonstrations of common system tools and discuss their application.
• Apply basic internet tools and other information technology relevant to eBusiness.
• Understand the principles of managing electronic data and business security.
• Understand the implications of Internet technologies on the workplace and be able to identify the appropriate integration strategies.

Content
• Key eBusiness enabling technologies and infrastructure, systems and architecture, resources, roles and relationships.
• Basic concepts, principles, applications and implementation of business process engineering.
• eBusiness applications, customer support management, market research, electronic payment, support and service, impact on organisations, individuals and society.
• Using IT and multimedia systems: integrated information systems, decision support systems and intelligent support systems, data and knowledge management.
• Managing IT: including cost benefit analysis of alternatives, total costs of ownership, supplier.

References

In addition students will be directed to relevant web sites and encouraged to research other online resources.

LEB503 The eBusiness Environment

12.5 Credit Points • 12 Weeks or equivalent • 30 Hours or equivalent • Lilydale
Prerequisite: Nil • Assessment: Report, eBusiness plan, individual insights and reflection papers.
A subject in the Graduate Certificate of Business (eBusiness and Communication).

Aims & Objectives
This subject expands the concept of eBusiness generally associated with merchandising and the exchange of business information and data, to encompass a wide range of other on-line business activities such as delivering training and developing Intranets. The concept has expanded to encompass a total business environment and thus this subject investigates, in a theoretical and practical way, the nature and implications of eBusiness and examines the eBusiness environment.

After completing this subject, students will be able to:
• Describe key eBusiness developments and their application.
• Explain expected changes to the business environment and workplace implications.
• Examine the ecosystem based structure of eBusinesses.
• Develop effective eBusiness strategies for a workplace.

Content
• eBusiness developments, trends and wider implications of eBusiness.
• Ethical and legal implications of the Information Age for the workplace.
• Online marketing: theory and practice, local and global.

Swinburne University of Technology | Higher Education Handbook 2002
Leveraging inter-organisation alliances and the Internet for marketing and eBusiness.

Case studies in eBusiness.

References

Students will be directed to relevant web sites and encouraged to research other online resources.

LEB504 eBusiness and Communications Project

12.5 Credit Points  • 12 Weeks or equivalent  • 30 Hours or equivalent  • Lilydale  • Prerequisite: Nil  • Assessment: Project report, project proposal, project implementation.

A subject in the Graduate Certificate of Business (eBusiness and Communication).

Aims & Objectives
This subject will enable students to bring together their theoretical and practical understanding of eBusiness processes, systems and technologies and apply this understanding to an appropriate work-based project. Through this learning experience electronic communications students will develop (a) the process and procedural skills of systematic and scientific enquiry relevant to small work-based projects and (b) expertise in applying these skills in seeking sustainable, cost effective and practical solutions to real world eBusiness problems or issues.

After completing this subject students will be able to:

• Identify, scope and specify an eBusiness problem or issue for solution or analysis.
• Develop a detailed project proposal, including a project management plan.
• Implement a project to a specified stage of completion.
• Report on the supporting activities, including research, necessary for project design and implementation of eBusiness solutions in relation to sustainability or cost effective performance in the workplace.

Content
Participants will consult with supervising staff at regular intervals. An interactive project subject website will provide an online communications environment which will facilitate interaction between fellow learners and staff. Through on-line discussion forums, synchronous chat rooms, bulletin board and upload facilities of a virtual resource bank, library access, and assignment submission system, learner issues or problems can be shared and addressed in a timely and effective manner. Projects may include real world issues and problems, reading in an area related to eBusiness and communication, and/or investigation and case studies. Projects will include development and implementation of a strategic plan, implementation in the workplace and evaluation of outcomes as appropriate.

References
Depending on the project, references will build on those used for other subjects. In addition students will be directed to undertake a literature search, including the Internet and other online resources.


Neuman, W.L. Social Research Methods: Qualitative and Quantitative Approaches, Alvin and Bacon, Sydney, 1997.


LEB505 eBusiness Virtual Learning Project

12.5 Credit Points  • 12 Weeks or equivalent  • The equivalent workload of 120 hours  • Lilydale  • Prerequisite: Nil  • Teaching methods: Students will consult with supervising staff at regular intervals. A subject web site will provide a communications environment with staff and fellow students in which issues or problems can be shared and addressed.  • Assessment: project proposal, project report, project implementation.

A subject in the Graduate Certificate of Business (eBusiness and Communication).

Aims & Objectives
This subject aims to provide a practical learning experience for those with responsibilities associated with managing the transition from traditional approaches to education, training and development to delivering digitally. Through this project address the context, policy issues, the guiding principles, best practice and a new range of skills required to successfully design and implement the new web-based learning technologies. Participants will be able to develop a set of functional skills and abilities that are required to assess the design, development, costing, implementation and evaluation of delivering digital learning in the workplace. As well this subject provides a hands on experience in applying these skills and abilities in seeking sustainable, cost effective and practical design solutions to virtual learning project problems and issues.

Projects may include designing and building interactive programs using web technology and tools or multi-media software. A wide variety of forms of outcomes may be submitted and students will be encouraged to use a sound mix of creativity, realism and critical analysis, informed by relevant research and prior experience.

After completing this subject students will be able to:

• Identify, define and specify an eBusiness virtual learning problem or issue for solution or exploration and analysis.
• Develop a project proposal, including a project management plan.
• Implement a project to a specified stage of completion.
• Report on the supporting activities, including research, that support the project design and implementation in relation to sustainability, cost effectiveness and being a practical solution.

Content
Context: Knowledge of media concepts and technologies, forces driving change in education, training and development; learning in an electronic environment, best practice and quality frameworks.

Implementation: Cost differences between traditional and digital delivery; learning as an investment not a cost; re-engineering of business infrastructures; re-skilling and supporting staff; reorientation of program delivery, re-designing support services and evaluation processes; phases in managing the transition.

The future: Drivers of change; new digital technologies; new global players in the learning and information delivery enterprise.

References
Depending on the project, references will build on those used for other subjects. In addition students will be directed to undertake a literature search, including the World Wide Web and other on-line resources.


In addition students will be directed to relevant web sites and encouraged to research other on-line resources.
tasks of immediate and long-term benefit, soundly based on useful business concepts and processes.

After completing this subject students should be able to:

- Describe a simple accounting system and the link financial transactions with financial reports.
- Read financial reports and understand the way they represent operating activities.
- Apply techniques of social auditing and activity-based management to improve performance.
- Supply relevant and timely information for management decision making.
- Explain the opportunities in finance for the use of eCommerce and online communication.
- Relevant valuation models for eBusiness and cost-benefit analysis for projects.

**Content**

- Manager’s roles, accounting systems and financial reports.
- Operating statements, cash flow management and budget reports.
- Cost drivers, budgeting and analysis of variance.
- Activity-based costing and management.
- Key-Performance Indicators - bottom line, inputs, outputs and benefits to society.

**References**


In addition students will be directed to relevant web sites and encouraged to research other online resources.

**LEBS07 Designing Multimedia Presentations for Business**

12.5 Credit Points • 12 Weeks or equivalent • 30 Hours or equivalent • Lilydale • Prerequisite: Nil • Assessment: development of a strategy to measure information communication, participation in student displays and virtual tutorials, production of a multimedia presentation for business management purposes.

A subject in the Graduate Certificate of Business (eBusiness and Communication).

**Aims & Objectives**

This subject will explore, using a reflexive and practical approach, multimedia presentation tools such as PowerPoint for business communication. Multimedia presentation pertinent to the varied roles of business professionals will be explored. After completing this subject students will be able to:

- Define and discuss the purpose and process of information communication.
- Define and discuss communication (behaviour, cognitive, attitudes and values) as an influence.
- Understanding how writing for electronic presentation tools offers different opportunities from traditional writing/presentation tools.
- Interpret and communicate your specific workplace issues as they relate to presentation of information.
- Scripting for integration of multimedia applications.
- Recognising good design in effective electronic communication.

**Content**

- Extension of existing skills in communication and presentation into multimedia.
- Information semantics.
- The practice of electronic communication and its relationship with multimedia and communication theories.
- Pre-planning, design, production, testing and updating of multimedia business presentations.
- Defining strategies and best practice to evaluate and produce multimedia presentations.

**References**

Germov, J., Williams, L., Get great info.m.htm on fast, Allen and Unwin, Sydney, 1999.

**LEBS08 Sustainability, eBusiness and Triple Bottom Line**

12.5 Credit Points • 12 Weeks or equivalent • 30 Hours or equivalent • Lilydale • Prerequisite: Nil • Assessment: short papers, research report, workplace application.

A subject in the Graduate Certificate of Business (eBusiness and Communication).

**Aims & Objectives**

This unit explores the Triple Bottom Line as a sustainability paradigm which can transform the way an organisation operates in the 21st Century. It teaches both the principles and practices of this exciting new way of thinking and also enables the student to apply the TBL to a group or organisation.

- Understand the sustainability paradigm and its manifestation in the Triple Bottom Line.
- Study examples around the world of this principle being applied in measurement approaches.
- Be able to design a TBL application in an organisation.
- Study the implications for the global economy and society of widespread adoption of sustainability practices.

**Content**

- A Brief History of the World.
- Evolution of Capitalism.
- The Environmental Crisis.
- Mental Model 1.
- The emergence of Mental Model 2 – the Environmental Paradigm.
- The Social Responsibility Paradigm.
- The Triple Bottom Line.
- Drivers of Change.
- Corporate Crises – Cases.
- Stakeholder Dialogue Processes.
- The emergence of TBL indicators.

**References**

Weaver, G., Strategic Environmental Management, John Wiley, Chichester, 1996.

In addition students will be directed to relevant web sites and encouraged to research other online resources.

**LEBS09 Learning Organisations and Systems Thinking**

12.5 Credit Points • 12 Weeks or equivalent • 30 Hours or equivalent • Lilydale • Prerequisite: Nil • Assessment: individual insight and reflection papers, group work-based project, application plan / project proposal for work-based implementation.

A subject in the Graduate Certificate of Business (eBusiness and Communication).

**Aims & Objectives**

This subject aims to encourage a holistic and organisational view of learning and information for the purpose of improved business performance. It explores systems thinking, covering the aspects of its nature, importance and benefits to contemporary
management and business performance and to use some of the tools of systems thinking to improve managerial practice.

After completing this subject students will be able to:

- Explain the nature and benefits of an organisation operating as a learning organisation.
- Understand the process of establishing and maintaining a learning organisation.
- Apply the tools of systems thinking to problems in a workplace in ways that lead to improved performance and sustainability.
- Analyse workplace activities in terms of systems and begin to develop ideas for using the internet to add value to customers and achieve the organisation’s objectives more efficiently.

Content

- Learning organisations and the roles of the manager.
- Macro systems thinking models, system architecture design and open systems approach.
- System dynamics fundamentals, object oriented analysis and design.
- Policy development and management of change.
- Personal Productivity, WWW, Internet and PC based systems.

References


Students will be directed to relevant web sites and encouraged to research other online resources.

LEB600 eBusiness Design for Competitive Advantage

12.5 Credit Points • 12 Weeks or equivalent • 30 Hours or equivalent • Lilydale
Prerequisite: LEB500 or equivalent • Assessment: short papers, report, strategic plan.
A subject in the Graduate Diploma of Business (eBusiness and Communication).

Aims & Objectives

This subject addresses the new business models developing in response to information technology and telecommunications change. It will focus on eBusiness reengineering through process innovation and the use of information technology for the purpose of gaining competitive advantage.

After completing this subject students will be able to:

- Describe the shift from eCommerce to eBusiness.
- Apply the principles of eBusiness reengineering to a business within a familiar industry.
- Scan the eBusiness environment and identify eBusiness trends.
- Explain how eBusiness models can be used for competitive advantage and sustainability.
- Develop strategies for process innovation and apply new models of management.
- Use change management techniques in the context of eBusiness.

Content

- eCommerce to eBusiness - history, distinctions and future directions.
- Reengineering business - a strategic structural process involving new ways of thinking.
- Readiness, flexibility, decision making and strategic resource planning.
- Process innovation, entrepreneurship and competitive advantage.
- Object oriented methodology, change management and eBusiness strategy, Flexibility, Decision Making and Strategic Resource Planning.

References


Students will be directed to relevant web sites and encouraged to research other online resources.
LEB602 Managing Strategic Cost and Performance in eBusiness

12.5 Credit Points • 12 Weeks or equivalent • 30 Hours or equivalent • Lilydale
Prerequisite: LEB600 or equivalent • Assessment: strategic plan, presentations, strategic cost management plan.
A subject in the Graduate Diploma of Business (eBusiness and Communication).

Aims & Objectives
This subject is designed for eBusiness managers and takes a strategic and holistic view of cost and performance management in an eBusiness environment. It introduces a strategic management model and system evaluation process that can be applied to address the long-term implications of cost behaviour in relation to key business issues. This model is applied to managing costs of quality, environment, and knowledge. Techniques emerging from particular business cultures and environments are examined including target costing, benchmarking, Balanced Scorecard and knowledge management. The relationship between models of analysis and decision support systems is examined.

After completing this subject students will be able to:
- Describe how to take a strategic approach to cost management.
- Apply strategic cost management techniques to improve future performance.
- Understand the nature and role of decision support systems for performance improvement.
- Design systems that meet the needs of strategic decision makers.

Content
- Strategic cost management models and applications.
- Decision support systems.
- Profitability analysis, target costing and Balanced Scorecard.
- Supply chain management and benchmarking.
- Procurement cost management and just-in-time systems.
- System design for cost and performance management with an eBusiness focus.

References

Students will be directed to relevant web sites and encouraged to research other online resources.

LEB603 Managing Human Resources in eBusiness Environments

12.5 Credit Points • 12 Weeks or equivalent • 30 Hours or equivalent • Lilydale
Prerequisite: LEB602 or equivalent • Assessment: short papers, case studies, strategic plan.
A subject in the Graduate Diploma of Business (eBusiness and Communication).

Aims & Objectives
This subject is focused on managing human resources as a crucial factor for success in an eBusiness environment. It examines how people create knowledge and information technology enables this to be captured and organised in ways that benefit performance. The concepts of sustainability and productivity are examined in the context of eBusiness using case-based and case studies. Electronic management techniques for managing selection, recruitment, retention and replacement are included. An integrative approach is taken to providing people, technology and change.

After completing this subject students will be able to:
- Describe the implications of an eBusiness environment for human resource management.
- Understand how to apply different management styles, skills of influence and systems in taking an integrative approach to managing people, technology and change.
- Understand relevant Australian legislative requirements.

Content
- Integrative approaches to managing people, technology and change.
- Knowledge management, innovation, entrepreneurship and lifestyle.
- Managing downside human costs related to continuous and significant change, rapid response, service automation and outsourcing.
- Human resource information systems and electronic management of HR functions.
- eManagement of consultants and the skills of influence for client relations and management.

References
Wilson, M., Getting the Most from Consultants, Pitman, Melbourne, 1996.

Students will be directed to relevant web sites and encouraged to research other online resources.

LEB604 Research Methods for eBusiness Projectsect

12.5 Credit Points • 12 Weeks or equivalent • 30 Hours or equivalent • Lilydale
Prerequisite: LEB603 or equivalent • Assessment: project report, project proposal, project implementation.
A subject in the Graduate Diploma of Business (eBusiness and Communication).

Aims & Objectives
This subject will enable students to bring together their theoretical and practical understanding of a problem or issue related to eBusiness and electronic communications in the context of a specific workplace. Each student will prepare a customised project proposal in consultation with staff and then implement their proposal. The learning focus for this subject is on developing business research skills to underpin the taken approach to a work integrated project. Learning will be demonstrated by applying these skills to a selected project to the extent possible, within the subject workload plus any work time committed to the project.

After completion of this subject students will be able to:
- Review the major themes running through the course, including innovation, strategic thinking and management, communication and electronic culture, technology and information systems, multimedia, eBusiness and sustainability.
- Identify, scope and specify an eBusiness problem or issue requiring a research based approach.
- Build a research base to inform the focus, conceptual framework, design and implementation of a work integrated project.
- Develop a project proposal, including a project management plan.
- Implement the project to a stage defined by a specified set of deliverables.

Content
- Research methodology.
- Project identification, specification and proposal writing.
- Conceptual frameworks, literature search and review and intelligence gathering.
- Research design, questionnaire development and testing, data analysis and interpretation.
- Research project management.

References

Depending on the project, references will build on those used for other subjects. Students will be directed to undertake a literature search, including the Internet and other online resources.
LEB605  Economics of eTrading and Globalisation

12.5 Credit Points  • 12 Weeks or equivalent  • 30 Hours or equivalent  • Lilydale  
Prerequisite: Nil  • Assessment: global business plan, short paper, economic analysis project. 
A subject in the Graduate Diploma of Business (eBusiness and Communication). 

Aims & Objectives

This subject addresses the nature of globalisation and its impact on trade, investment, enterprises and world order. The approach taken is primarily economic but includes the functions of nationality and culture. The aim is to understand international business and competition in a global market place and the implications for eBusiness managers using case study approach. 

After completing this subject students will be able to: 
- Describe globalisation and its implications for industry. 
- Analyse the nature and impact of eTrading on business enterprise and investment. 
- Explain the strategy, structure and operations of international business. 
- Understand the nature of the global monetary system on business. 
- Analyse the new style internet, eBusiness enterprises and investment. 

Content 
- Global Electronic Commerce. 
- Global Business Planning for Competing in the Global Market Place. 
- Global Investment and eTrading. 
- International Business Management. 

References 

In addition students will be directed to relevant web sites and encouraged to research other on-line resources. 

LEB606  Cultural and Intercultural Implications of Globalisation

12.5 Credit Points  • 12 Weeks or equivalent  • 30 Hours or equivalent  • Lilydale  
Prerequisite: Nil  • Assessment: short papers, research report, work-based application. 
A subject in the Graduate Diploma of Business (eBusiness and Communication). 

Aims & Objectives

This subject examines the practical and theoretical dimensions of intercultural communication in the organisational and the global business context. The focus is on factors influencing intercultural competencies that create and maintain effective individual, organisational and national communication skills. These skills are essential to managers and consultants operating in an increasingly global political, economic and socio-cultural environment. 

After completing this subject students will be able to: 
- Describe, analyse and employ their knowledge of Australian and other societies in a global business environment. 
- Understand the impact of cultural/ethnic factors and language conventions in international business. 
- Effectively use a range of intercultural communication skills. 
- Utilise knowledge relating to legislative, social and economic dimensions of diversity management. 

Content 
- Intercultural communication: gender and culture. 
- Social and cultural meaning of work; role of trade unions and professional organisations. 
- Intercultural management and intercultural marketing. 
- Culture and legal frameworks and practices; ethics and cultural diversity. 

References 
Hopkins, W., Ethical Dimensions of Diversity, SAGE, USA, 1997. 


Students will be directed to relevant web sites and encouraged to research other online resources. 

LEB607  Multimedia Tools in Web Site and CD Rom Development

12.5 Credit Points  • 12 Weeks or equivalent  • 30 Hours or equivalent  • Lilydale  
Prerequisite: LEB605 or equivalent  • Assessment: Research report investigating global, cultural and human-computer interaction. Contributing to student multimedia production and displays web site. Work integrated multimedia applications. 
A subject in the Graduate Diploma of Business (eBusiness and Communication). 

Aims & Objectives

This subject will explore the purposes, conceptual frameworks, design features and pre-production planning tools relating to electronic media design and development. Case study web site and CD Rom production using a variety of multimedia tools. Exploration of the relationship between print and electronic writing and developing this into a multimedia framework. 

Students will develop an understanding of and skills in: 
- Preparing information for use in a range of presentation media. 
- Using electronic multimedia tools such as desktop publishing, PowerPoint and web site development. 
- Storyboarding and designing textuality for best practice communication. 
- Becoming comfortable in both concepts and practice of interactive multimedia. 
- Proficiency in one or more multimedia tools. 

Content 
- Communications theories (Informational and Technological) and their application and practices. This will include theories about culture, multimedia, textuality and discourse. 
- Extending skills in effective communication strategies. 
- Advanced understanding and use of multimedia tools. 
- Develop a global and cultural awareness and an inclusive attitude when producing multimedia communications. 
- Develop an awareness of human-computer interaction. 

References 

Students will be directed to multimedia tools manuals, relevant web sites and other online resources. 

LEB608  Sustainability Indicators and eBusiness Performance

12.5 Credit Points  • 12 Weeks or equivalent  • 30 Hours or equivalent  • Lilydale  
Prerequisite: LEB608 or equivalent  • Assessment: short papers, research report, work-based application. 
A subject in the Graduate Diploma of Business (eBusiness and Communication). 

Aims & Objectives

Scholars and activists have been individually and jointly thinking about and testing indicators of sustainable development in the local, national or international contexts in recent years. The conceptual understanding of the economic, environmental, social and societal dimensions of sustainability is continuously improving. Progressive reporting practices in national, local and corporate decision making are beginning to be developed worldwide. This subject seeks to explore the new field of sustainability reporting and evaluate a range of initiatives. 

Content 
- Development of sustainability thinking and implementation at local, national and international level. 
- Development of sustainability thinking and implementation at corporate level.
• Parallel between reporting practices and sustainability management performance.
• Sustainability and risk management.
• Models for triple bottom line management and accountability practice.
• DON Jones Sustainability Index.
• Case Study: Trimaran, international action research program focusing on the links between sustainable development, corporate governance financial markets and board level decision making.
• Case Study: The Development Sustainability Indicators in New Zealand and the United Kingdom.

**References**


Students will be directed to relevant web sites and encouraged to research other online resources.

**LEB700 Strategic Transformation and Entrepreneurial eBusiness**

12.5 Credit Points • 12 Weeks or equivalent • Lilydale • Prerequisite: LEB800 or equivalent • Assessment: insight paper on an eCommerce issue (individual), reflective paper on your identity as a manager in relation to technology and information, research report, virtual community applications in the workplace.

A subject in the Master of Business (eBusiness and Communication).

**Aims & Objectives**

Given the transformational change required to operate as a global eBusiness and the ongoing necessity for rapid incremental change, entrepreneurial activity is increasing with both high rewards and disasters being widely reported. Earlier studies have addressed the challenges of making the transition to eBusiness. This subject provides the challenge of being entrepreneurial and creative in relation to the emerging patterns of change and generation of opportunities.

Many of the spectacular cases of emergence, exponential growth and rapid demise will be studied in order to apply your understanding of the nature of eBusiness development and the drivers of success and financial benefits in the context of eBusiness. Currently managers are exploring and seeking answers to the requirements and success factors for managing new business ventures in the eBusiness environment.

In studying this subject students will:

• Analyse the driving forces for success and the impact of electronic commerce in multi- unit international businesses.

• Analyse eBusiness case studies applying eCommerce in different industries.

• Express ideas and implement management roles using interactive multi-media tools.

• Provide an opportunity for students to work in a team to capture and elaborate an eBusiness idea, develop a strategic plan and begin to develop some of the components that would be required to convince other parties to support the new venture.

After completing this subject students will be able to:

• Understand the importance of entrepreneurship and ongoing innovation in eBusiness success.

• Develop the skills required to integrate the management demands relating to technology and information systems in a complex organisation.

• Develop an identity as a technology and information-enabled manager ready to manage technology and information across a complex enterprise operating in a global market.

• Apply and integrate knowledge and management skills to an eBusiness venture.

• Assess strategic opportunities giving attention to people, technology, process, environment and changing trends.

• Explore the fundamentals of expert and intelligent systems and decision support systems.

• Understand and apply systematic approaches with flexibility to a range of information technology and computing resource management functions.

**Content**

A broad view is taken of technology and information systems including:

• Success drivers in eCommerce and the far reaching impact of its application on business.

• Retailing and eCommerce, Internet consumers and customer relationship management.

• eMarketing and eCommerce for service industries.


• Electronic payment systems, eCommerce strategy and implementation.

• Infrastructure of eCommerce, virtual communities.

• Expert and intelligent systems, decision support technologies including machine learning, data mining and discovery, creativity, intelligent modeling and model management.

**References**


In addition students will be directed to relevant web sites and encouraged to research other online resources.

**LEB701 Virtual Communities - eBusiness and Society**

12.5 Credit Points • 12 Weeks or equivalent • Lilydale • Prerequisite: Nil • Assessment: search for and report on the nature, functions and practice of three virtual communities, research report, application of a model, evaluation method, system of analysis to a virtual community or development of a management plan for an eBusiness or other virtual community.

A subject in the Master of Business (eBusiness and Communication).

**Aims & Objectives**

This subject examines diverse virtual community case studies for the purpose of developing an understanding of the nature of virtual communities. These communities exist in the new digital domain and in the minds and experience of participants. They fulfil many different purposes and generate new opportunities, reaching beyond local geographic areas. They use electronic mail for chat rooms, bulletin board and forums. Online access is commonly provided through web sites and portals, and this easily identified entry enables collaborative activities to occur at lower cost than traditional methods. Rhetoric, vision and questions abound in this field of study. Answers are scarce and often lack supporting evidence and a theoretical basis.

After completing this subject participants will be able to:

• Describe a variety of virtual community models and identify key performance indicators.

• Evaluate the performance of virtual communities and understand the alternative models of operation and methods of management.

• Apply action research methodologies to virtual communities to inform policy development and management tools for more effective implementation of virtual communities.

• Contribute to a virtual communities knowledge base established in conjunction with the Centre for eBusiness and Communication.

• Understand the key drivers for optimising virtual community performance and define strategies, development plans and models for the management of virtual communities.
Outline useful research processes and problem solving models for application within digital worlds in relation to eBusiness, communications, community and learning.

Select and evaluate useful technologies and tools for virtual community management.

Content

- Nature, functions and practices of diverse virtual communities.
- Conceptual frameworks and definitions of virtual communities.
- Key factors of influence and drivers of effective performance.
- Schema for analysing the operation of virtual communities and networks, including their nature, stage of development and performance measurement.
- Evaluation of virtual communities from different stakeholder perspectives.
- Relationships between virtual and real communities, and virtual communities and real people.
- Technology, tools and systems underpinning virtual community operations.

References

Electricminds <http://www.minds.com/>
Future Culture <http://www.eerie.fr/e-squier/Cyber/culture.html>

LEB702 Building an Integrated eBusiness Infrastructure

12.5 Credit Points  12 Weeks or equivalent  30 Hours or equivalent  Lilydale  Prerequisite: Nil  Assessment: Project brief to the Board of Directors, report on building the eBusiness, reflection of learning in relation to asking the ‘right (creative)’ questions.

A subject in the Master of Business (eBusiness and Communication).

Aims & Objectives

This subject bridges the gap between IT infrastructure, eBusiness and knowledge-based frameworks to build an eBusiness. The subject extends earlier studies in eBusiness modelling and design, and takes strategic transformation and entrepreneurial eBusiness to the next stage. It goes beyond theory to implementation in the broadest sense, by engaging the student as the decision maker, offering advice for designing interrelated strategies focused on customer relationships, resource planning, order management, supply chains, and on evaluating investments needed to make them a reality. The purpose is to answer the many questions posed by management during the process from idea to investment and implementation of a decision. The approach taken in the subject is for participants to build an eBusiness to the stage where it is ready to go to the Board for decision purposes. An important skill for students in this process is to pose the right questions.

A sample of questions that might be asked include:

- What are the key characteristics of the industry environment that will influence success?
- What is the eBusiness model that will generate competitive advantage?
- Will the current IT infrastructure be modified or will new solutions be created?
- What pieces will you invest in, and how will you sequence your decisions when each framework takes three years to implement?
- How will the inter-related frameworks of CRM, resource planning, order management, supply chain, knowledge management, evaluation of investments be integrated?
- What changes are needed to ensure cohesive management of implementation?
- How does the contributing players work together for eBusiness blueprint planning?
- How will priorities be addressed?
- How will the business case and investment justification be developed?

References


In addition students will be directed to relevant web sites and encouraged to research other on-line resources.

LEB703 eBusiness Regulation

12.5 Credit Points  12 Weeks or equivalent  30 Hours or equivalent  Lilydale  Prerequisite: Nil  Assessment: short papers, case study analysis, eSolutions project.
A subject in the Master of Business (eBusiness and Communication).

Aims & Objectives

The implementation of new electronic technologies in cyberspace has introduced new and unfamiliar sets of risks and legal relationships. Legislators, lawyers, accountants and auditors face continual challenges in their efforts to ensure adequate organisational security and controls, individual privacy is respected and the appropriate legislation and legal remedies are established. Those doing business electronically have a need to secure important data and to feel confident that the confidentiality and privacy of their communication or transactions are not compromised. Many issues are still emerging, and even more are still unresolved. This subject aims to systematically explore the growing importance of the legal, ethical, security and social responsibilities of operating in the borderless and virtual world of eBusinesses.

On successful completion of this module you should be able to:

- Identify key international, national and state regulations, reports and discussion papers which address the uses of the Internet, computer applications and other legal implications affecting eBusiness and communication.
- Examine the legal principles underpinning current electronic regulation of the Internet, in particular those derived from Contract Law, Equity, Misrepresentation, the Trade Practices Act and Consumer Protection.
- Digitally access and compile key legal resources and data that will assist in better understanding the legal implications of operating in an electronic and global business environment.
- Assess the problems of controlling information on the Internet and the implications of growing government regulation, and business self regulation.
- Propose a range of practical strategies and solutions to meet the additional regulations and obligations that impact on doing business electronically.
- Discuss growing community concerns regarding ethical business practice in cyberspace, including the shift from shareholder to stakeholder responsibility and sustainable investment.

Content

- Contract law, equity, misrepresentation, the trade practices act and consumer protection.
- Ethics, privacy, spamming, defamation and free speech.
- International jurisdictions, transactions and regulation of information flow.
- Censorship, intellectual property and copyright.
• Trade practices and consumer protection, use of trade marks and domain names,
taxation, data security, auditing and control.

References
Edwards, L., Wanke, C., Law and the Internet: Regulating Cyberspace, Hart Publishing,
Godwin, M., Cyber Rights: Defending Free Speech in the Digital Age, Random House, UK.
1998.
Loeb, L., Secure Electronic Commerce: Introduction and Technical Reference, Artech
Turban, E., et al., Electronic Commerce: A Managerial Perspective, Prentice Hall, Sydney,
2000.

Students will be directed to relevant web sites and encouraged to research other online
resources.

LEB704 Community, Sustainability and Multimedia Project
12.5 Credit Points • 12 Weeks or equivalent • 30 Hours or equivalent • Lilydale •
Prerequisite: LEB604 or equivalent • Assessment: project or research proposal, project
script or equivalent, or research design and ethics application, project deliverables or
research report.
A subject in the Master of Business (eBusiness and Communication).

Aims & Objectives
The purpose of this project based subject is to enable each participant to integrate their
learning by planning, researching, designing, building and implementing (as appropriate) a
workplace project relating to community, sustainability and multimedia. It is intended to
be a creative skills and design subject and the approach taken will be soundly research
based and appropriately contextualised to the specific environment within which the
project resides.
Preparation for this project will have occurred in earlier subjects, in interactions with
other participants and in the holistic lifelong learning experienced and reflected upon by
the learner. Team projects will be considered, but an additional reflective report
focussed on the individuals learning with relevant links to sections of the assessment
deliverables will be required.

Content
• Preliminary project identification, skill needs analysis, intelligence and literature
search.
• Skills development plan and implementation.
• Project script or equivalent.
• Completion of deliverables on time, within budget and professional quality.

References
Duffy, J., Harnessing Experience, Reaping the Benefits of Knowledge, ARMA
Sharp, J., Howard, K., The Management of a Student Research Project, 2nd ed., Gower,
Holtsapple, C.W., Whitmon, A.B., Decision Support Systems: A Knowledge-Based
Kling, R., (ed.), Computerisation and Controversy: Values, Conflicts and Social Choices,
Nelson, J., Designability Web Usability: The Practice of Simplicity, New Riders
Tidd, J., Bessant, J., Pavitt, K., Managing Innovation: Integrating Technological, Market
Turban, E., Aronson, J., Decision Support Systems and Intelligent Systems, 5th edn.,
Tannebaum, R.S., Theoretical Foundations of Multimedia, Computer Science Press, New
York, 1999.
Zikmund, W.G., Business Research Methods, 8th edn., Dryden Press, Harcourt, Fort
Worth, 2003.
The student will select project-specific references. This forms an important part of the
project development and design process. Students will be directed to relevant web
sites and encouraged to research online resources.

LEB705 Interactive Multimedia Production for Business
12.5 Credit Points • 12 Weeks or equivalent • 30 Hours or equivalent • Lilydale •
Prerequisite: LEB607 and LEB608 or equivalent • Assessment: pre-production proposal,
production prototype and scripts, prototype evaluation and production enhancement
cycle.
A subject in the Master of Business (eBusiness and Communication).

Aims & Objectives
From idea to consumer: the study and development of multimedia productions within a
business framework.
Participants will develop and understanding of and skills in:
• Establishing criteria to enable the critical evaluation of your own and others’
multimedia productions.
• Prescribing and utilising multimedia tools most appropriate to a requirement for
electronic communication outcomes.
• Production streaming, including pre-production, development and post-production.
• Measuring information communication using semiotics and electronic media
quality criteria.

Content
• Multimedia production and lifecycle.
• Conceptually map a multimedia production, scripting and storyboarding.
• Planning procedures and budget justification for multimedia projects.
• Multimedia production and management tools.
• Establishing and managing the multimedia team.

References
Arnold, J., Green, D., Vigo K., Australia’s Cultural Dreaming, CD ROM, Swinburne
University of Technology, 2000.
Tannebaum, R.S., Theoretical Foundations of Multimedia, Computer Science Press, New
York, 1999.
Windschuttle, K.E., Writing Researching Communicating, Communication skills for the
From live performance to the digital stage - The PAML Pilot Project Production Guidelines
This site is designed as a guide to enable performing arts companies and individuals to
explore these issues and develop their own digital products. It includes detailed
information about copyright issues specific to the performing arts as it applies to
the digital environment - such things as intellectual property moral rights,
clearances and royalties. In addition students will be directed to relevant web sites
and encouraged to research other online resources.

LEB706 Global Sustainability
12.5 Credit Points • 12 Weeks or equivalent • 30 Hours or equivalent • Lilydale •
Prerequisite: LEB608 or equivalent • Assessment: short papers, research report,
application.
A subject in the Master of Business (eBusiness and Communication).

Aims & Objectives
This unit provides an overview of ‘mental models’ of the future. These can be
constructed at different levels of analysis, depending on the client application need. We
will learn how to construct a forward view which makes sense of existing information
on what may be happening, or what may transpire. This unit applies the methodologies
of the other three units to build coherent forward view of any topic of interest from a
global level (eg. world governance) down to a detailed technical level (eg.
nanotechnology).
On completion of this unit students will be able to:
• Understand the key drivers of change underlying the knowledge and biotechnical
economy.
• Be familiar with the continuities and discontinuities of change and scenarios which
build on them.
• Be aware of how things might look in the world in ten years time from a range of
political, social, economic, scientific, technological, consumer, and environmental
perspectives.
• Be able to apply global change models to help clients explore their strategic
options.
LEB800  eBusiness and Communication Work Integrated Project

25 Credit Points • 12 Weeks or equivalent • 60 Hours or equivalent • Lillydale • Prerequisite: LEB604 or equivalent or negotiated inclusion of research methodology into this subject. • Assessment: Preliminary report including skill development plan, Conceptual framework, literature and web based resource review, Deliverables. A subject in the Master of Business (eBusiness and Communication).

Aims & Objectives

The purpose of this project based subject is to provide each participant to integrate their learning by planning, designing, building and implementing (as appropriate) a workplace project in eBusiness and communication. It is a capstone unit and the approach taken will be soundly research based and appropriately contextualised to the specific environment within which the project resides. Preparation for this project will have occurred in many of the preceding subjects of study, in interactions with other participants and in the holistic lifelong learning experienced and reflected upon by the learner. Team projects will be considered, but an additional reflective report focused on the individual’s learning with relevant links to sections of the assessment deliverables will be required.

Content

- Preliminary project identification, skill needs analysis, intelligence and literature search.
- Skill development plan and implementation.
- Project proposal: introduction and purpose, importance and relevance, conceptual framework, research base, design, methods and implementation plan.
- Supervision and completion of deliverables on time, within budget and professional quality.

References


LHO400  Research Approaches

25 Credit Points • 12 Weeks or equivalent • 7 Hours per Week • Lillydale • Prerequisite: Nil • Teaching methods: Combination of workshops, seminars, presentations. • Assessment: Class presentations, Essays, Examinations. A subject in the Bachelor of Applied Science (Hons), Bachelor of Business (Hons) and Bachelor of Social Science (Hons).

Aims & Objectives

This subject has two parts. Research Approaches (Part A) will enable students to identify and employ the research approaches most suited to their own Research Project while at the same time understanding the potential for the application of other research methodologies and approaches. Part B, Social Theory and Ethics considers how social theory informs the research process. It aims to improve critical thinking and evaluation skills. More specifically it is concerned with how ethical theories can improve our understanding of moral and ethical dilemmas entailed in the research process and our everyday lives.

Content

The student will be introduced to a range of theoretical frameworks and research methodologies and will be assisted to identify and use the most appropriate theoretical and methodological approaches for their Minor Thesis/Project. Topics include:
- Research defined – Business, Information Technology and Social Science.
- Introduction to Discipline specific literature (historical, current and developmental).
- Qualitative and quantitative research approaches.
- Theoretical Foundations of Research.
- Different Research Methodologies and Methods, for example: Positivism, Interpretive Methodologies, Feminism, Postmodernism, Survey Research, Interdisciplinary research.
- Critical Review of Existing Resources.
- Criteria and Strategies to transform Data into Evidence.
- Communicating Findings.
- Normative Ethical Theories.
- Virtue Ethics.
- Contemporary Ethical Decision Making Models.

References

LHO401 Research Project-Design to Delivery

25 Credit Points • 12 Weeks or equivalent • 7 Hours per Week • Lilydale • Prerequisite: Nil • Teaching methods: Combination of workshops, seminars, presentations • Assessment: Literature Review, Research Proposal, Defence of Research Methodology.

A subject in the Bachelor of Applied Science (Hons), Bachelor of Business (Hons) and Bachelor of Social Science (Hons).

Aims & Objectives
This subject will enable students to conceptualise, manage and creatively apply a research project as well as improving skills in critical thinking, conceptualisation, collaborative problem solving, planning, presentation and reporting of the research process.

Content
The subject will assist the student in focusing on production of their discipline specific thesis proposal or project design. In addition it will provide the students with the skills to locate and critically review relevant literature and other source materials.

Topics include:
- Introduction: Establishing a learning community, team work and task allocation.
- Overview of development of Research Proposal, work program.
- Seminar on development of an in depth and comprehensive literature review for the specific research project.
- Identification and Discussion of appropriate conceptual frameworks for discipline focussed Minor Thesis/Project.
- Identification and Discussion of suitable Research Methods for discipline focussed Minor Thesis/Project.
- Legal and Ethical considerations – methodological issues, ownership and control of findings and products etc.
- Effective data presentation and Research Findings.
- Supervision roles and responsibilities, Editing and Re-drafting.
- Proposal presentation.

References

Additional references will be determined by the academic supervisor, and the student, depending on the topic chosen for the Minor Thesis/Research Project. Students will be encouraged to utilise relevant WEB resources.

LHO402A Research Project (Applied Science)

50 Credit Points • 12 Weeks or equivalent • 14 Hours per Week (equivalent) • Lilydale • Prerequisite: LHO400 and LHO401 • Teaching methods: Students will meet with their academic supervisor on a regular basis and will be required to present progress reports at Honours seminars. Every student will have a principal supervisor and a second supervisor. Where appropriate, students will keep individual journals. These may include lead questions, process decisions, issues arising and team work related aspects. The final submission must indicate the individual student’s work, and in the case of team work, clearly acknowledge the work of others. • Assessment: Project Report, Thesis.

A subject in the Bachelor of Applied Science (Hons).

Aims & Objectives
The aim of the subject is for students to complete a workplace based project with relevant outcomes.

Content
The Research Project will be developed by the student, their academic supervisor and where appropriate, the responsible workplace supervisor. A project report and workplace based product (eg. software, film, performance) should be the equivalent to producing a 10,000-15,000 word traditional academic thesis. The Minor Thesis/Project Report will be consistent with the expectations of quality consistent with this kind of work. Although the workplace based approach to honours research may involve an increased workload, students are still expected to reach a high level of academic competence and disciplinary rigour.

The Project Report will include:
- The research problem.
- How the research problem was addressed, strategic decisions.
- Task allocation, team issues.
- Theoretical frameworks employed.
- Methodological approaches applied.
- A current literature review.
- Clear conclusions and, if necessary, appropriate recommendations.
- In the case of a team based approach, documentation that clearly delineates each team member’s contribution.
- May include a workplace based product (eg. software, film, performance).

The final written submission needs to include a coherent explanation of the findings, clear writing and an understanding of the issues inherent in the Minor Thesis/Research Project.

References
To be determined by the academic supervisor and the student, depending on the topic chosen for the research project/thesis.

LHO402B Research Project (Business)

50 Credit Points • 12 Weeks or equivalent • 14 Hours per Week (equivalent) • Lilydale • Prerequisite: LHO400 and LHO401 • Teaching methods: Students will meet with their academic supervisor on a regular basis and will be required to present progress reports at Honours seminars. Every student will have a principal supervisor and a second supervisor. Where appropriate, students will keep individual journals. These may include lead questions, process decisions, issues arising and team work related aspects. The final submission must indicate the individual student’s work, and in the case of team work, clearly acknowledge the work of others. • Assessment: Project Report, Thesis.

A subject in the Bachelor of Business (Hons).

Aims & Objectives
The aim of the subject is for students to complete a workplace based project with relevant outcomes.

Content
The Research Project will be developed by the student, their academic supervisor, and where appropriate, the responsible workplace supervisor. A project report and workplace based product (eg. software, film, performance) should be the equivalent to producing a 10,000-15,000 word traditional academic thesis. The Minor Thesis/Project Report will be consistent with the expectations of quality consistent with this kind of work. Although the workplace based approach to honours research may involve an increased workload, students are still expected to reach a high level of academic competence and disciplinary rigour.

The Project Report will include:
- The research problem.
- How the research problem was addressed, strategic decisions.
- Task allocation, team issues.
- Theoretical frameworks employed.
- Methodological approaches applied.
- A current literature review.
- Clear conclusions and, if necessary, appropriate recommendations.
- In the case of a team based approach, documentation that clearly delineates each team member’s contribution.
- May include a workplace based product (eg. software, film, performance).

The final written submission needs to include a coherent explanation of the findings, clear writing and an understanding of the issues inherent in the Minor Thesis/Research Project.

References
To be determined by the academic supervisor and the student, depending on the topic chosen for the research project/thesis.
**LHO402C  Research Project (Social Science)**

50 Credit Points  • 12 Weeks or equivalent  • 14 Hours per Week (equivalent)  • Lilydale  

**Prerequisite:** LHO400 and LHO401  • Teaching methods: Students will meet with their academic supervisor on a regular basis and will be required to present progress reports at Honours seminars. Every student will have a principal supervisor and a second supervisor. Where appropriate students will keep individual journals. These may include lead questions, process decisions, issues arising and team work related aspects. The final submission must indicate the individual student’s work, and in the case of team work, clearly acknowledge the work of others.  

**Aims & Objectives**

The aim of the subject is for students to complete a work place based project with relevant outcomes.

**Content**

The Project will be developed by the student, their academic supervisor and where appropriate, the responsible workplace supervisor. A project report and workplace based product (eg. software, film, performance) should be equivalent to producing a 10,000-15,000 word traditional academic thesis. The Minor Thesis/Project Report will be consistent with the expectations of quality consistent with this kind of work. Although the workplace based approach to honours research may involve an increased workload, students are still expected to reach a high level of academic competence and disciplinary rigour. 

The Project Report will include:

- The research problem.
- How the research problem was addressed, strategic decisions.
- Task allocation, team issues.
- Theoretical frameworks employed.
- Methodological approaches applied.
- A current literature review.
- Clear conclusions and, if necessary, appropriate recommendations.
- In the case of a team based approach, documentation that clearly delineates each team member’s contribution.
- May include a workplace based product (eg. software, film, performance).

The final written submission includes a coherent explanation of the findings, clear writing and an understanding of the issues inherent in the Minor Thesis/Research Project.

**References**

To be determined by the academic supervisor and the student, depending on the topic chosen for the research project/thesis.

**LSM100  Texts and Contexts**

12.5 Credit Points  • 12 Weeks or equivalent  • 3 Hours per Week  • Lilydale  

**Prerequisite:** Nil  • Assessment: Discussion threads, Essays. Critical evaluation of discussion threads.

A Stage 1 subject in the Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne, Lilydale.

**Aims & Objectives**

LSM100 Texts and Contexts provides the basis for e-Culture and Media subjects as well as a starting point for utilising the possibilities for electronic systems deliveries taught in Information Technology and Computing, Information Systems and Interactive Multimedia. It provides a conceptual overview of Western culture and the development of cultural texts, particularly those related to globalisation. It introduces students to research methods such as the application of cultural and critical theory, the gathering of on-line data and the use of qualitative and quantitative methodologies. It enables students to analyse and critique systems of authority and apply this to globalisation.

**Content**

LSM100 Texts and Contexts draws together theory and practice to consider the following topics and issues:

- An introduction to critical and cultural theories and their research possibilities and practical approaches.

**References**

Core Text: O221: Australia’s Cultural Dreaming  

LSM100 Texts and Contexts website with hypertext links to recommended online readings. http://www.id.swin.edu.au/subjects/fom100/welcome.htm These links are updated on a regular basis to ensure that students have access to the most current thinking and information.


**LSM200  eCulture**

12.5 Credit Points  • 12 Weeks or equivalent  • 3 Hours per Week  • Lilydale  

**Prerequisite:** LSM100  • Assessment: Discussion threads, Essays. Critical evaluation of discussion threads.

A Stage 2 subject in the Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne, Lilydale.

**Aims & Objectives**

LSM200 eCulture enables students to participate in the information society of the new millennium. It gives them skills in practical applications as well as theoretical understandings and criticisms of electronic technologies. It draws together theories about globalisation and popular culture with hands on understandings and utilisations of relevant computer applications. It builds upon the research skills and theoretical concepts introduced by LSM100 Texts and Contexts to enable critical readings of cultural textuality and discourse. Topics to be addressed include: drawing together readings and writing: further identifying and problematising cultural givens; understanding and applying these to specific IT, mass media and cultural case studies.

**Content**

- Establishing criteria for analysing websites for effective communication.
- Utilising websites and CD Rom for e-learning.
- Enhanced use of PowerPoint and Word.
- Introduction to pre-production skills and concept development for product delivery.
- Understanding and application of critical and cultural theories.
- Insights into the role of electronic culture as the new popular culture.
- The role of globalisation in the formation of cultural textuality and discourse.
- Insights into the relationship between the virtual and the real.

**References**

Core Text: O221: Australia’s Cultural Dreaming  

LSM200 eCulture website with hypertext links to recommended online readings. http://www.id.swin.edu.au/subjects/fom200/welcome.htm These links are updated on a regular basis to ensure that students have access to the most current thinking and information.


**LSM201  Writing for the Media**

12.5 Credit Points  • 12 Weeks or equivalent  • 3 Hours per Week  • Lilydale  

**Prerequisite:** Nil  • Assessment: Writing for Mass Media stream - completion of workbook, Sorry Site contribution. Writing for Multimedia Stream: concept proposal, web-based publication, PowerPoint presentation.

A Stage 2 subject in the Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne, Lilydale.

**Aims & Objectives**

LSM201 Writing for the Media brings together the theory and practice of creating content for media publications ranging from in-house newsletters, mass media to business websites. Students can choose to either complete a stream focusing on journalism skills for the print media, or complete a stream focusing on content provision for multimedia (e.g. on-line news letters, websites, intranets and PowerPoint presentations). Students will pay particular attention to how different mediums create different forms of discourse.

**Content**

- Enhanced skills in applications such as PowerPoint, FrontPage, Publisher, Word.
LSM203 New Media

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LSM100 • Assessment: Discussion threads, Critical evaluation of discussion threads, Development of Website

Aims & Objectives

LSM203 New Media explores the impact of convergent technologies on the formation of a national and global network economy. It examines the interface, mergers and alliances between information technology/process, telecommunications (carriage and media [content] sector) and their implications for the development of new communications practices. In particular it examines the impact of the changes on e-business, e-education and corporate information processes.

Content

LSM203 New Media draws together theory and practice to consider the following topics:
- The implications and applications of convergent technologies to information creation.
- The implications of convergent technologies for information management and corporate e-memory.
- The impact of global communications technologies on local information.
- The role of converged communications technologies on globalisation.
- The role of global media and information players in determining integration of work, leisure and e-commerce.
- The roles of Telcos, government policy and regulatory bodies in determining information environments.
- Cultural and critical frameworks for developing an understanding of changing nature of Australian and global network economies.

References

Core Text: Oz21: Australia's Cultural Dreaming
LSM203 New Media website with hypertext links to recommended online readings http://www.ld.swin.edu.au/subjects/lsm203/welcome.htm These links are updated on a regular basis to ensure that students have access to the most current thinking and information.


LSM204 Cinema Studies

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LSM100 • Assessment: Weekly Film Reviews, Essay

Aims & Objectives

LSM204 Cinema Studies provides students with a flexible subject, able to be updated through commercial Hollywood film releases. It brings together dominant features of popular culture with critical and cultural insights provided by theory. It enables students to read against the given text and to understand the impact of genre upon the production of cultural beliefs and practices. Students will develop the ability to critically evaluate the filmic antecedents of on-line visual and audio textual elements. This process will enhance students' research capacities and their ability to develop critical criteria by which to approach, understand and evaluate aspects of new communications technologies arising from cinema, which have in turn altered cinema production, textuality and discourse in the emergent electronic culture.

Content

LSM204 Cinema Studies draws together theory and practice to consider the following topics:
- Writing critical evaluations.
- The cultural, financial and industrial basis of film industry.
- Applying critical and cultural frameworks to film.
- The complementary aspects of film production from pre-production to cinema release.
- Reviewing and reporting on filmic information.
- Utilising film for advertising and electronic purposes.
- Developing criteria for effective use of sound, image and special effects.
- Skills in applied textual analysis.
- Understanding and applying critical and cultural theories for an understanding of the mediated experience, particularly the Hollywood Dream Factory and its applications to globalisation.
- The role of film as a cultural text and artefact.
- The historical and cultural influences in the formation of the Australian film industry as a model for cultural research.
- The relationship between electronic special effects and the construction of virtual cultural realities.

References

Core Text: Oz21: Australia's Cultural Dreaming
LSM204 Cinema Studies website with hypertext links to recommended online readings http://www.ld.swin.edu.au/subjects/lsm204/welcome.htm These links are updated on a regular basis to ensure that students have access to current thinking and information.

Aims & Objectives

This subject examines the ways in which multimedia has been built up. It begins by looking at the relationship between film, television, and computer screens. It investigates the ways in which visual choreography and acuity developed through art, photography, cinema and television has a place when we think about working on for the very smallest screen. It builds an understanding of how written text is becoming a smaller part of how we think about colonising cyberspace. This subject presents students with an opportunity to develop new ways of thinking about textuality, taking into account the modes of criticism developed through the contributory elements of multimedia. It introduces students to developing preproduction multimedia skills.

Content

LSM304 Cyberscreen Studies draws together theory and practice to consider the following topics:

- Understanding computer textuality and discourse.
- Visual on-line choreography.
- Creation and manipulation of images.
- Critiquing cyber-narrativity.
- Understanding and utilising cyber-narrativity and characterisation.
- Bringing critical theory to on-line product development.
- Developing critical criteria for electronic texts.
- Understanding and critiquing genre and the binary opposites of fact and fiction.

References

Core Text: OZ21: Australia’s Cultural Dreaming
LSM304 Cyberscreen Studies website with hypertext links to recommended online readings. http://www.ld.swin.edu.au/subjects/lsm304/welcome.htm These links are updated on a regular basis to ensure that students have access to current thinking and information.


LSQ200 Design and Measurement 2

12.5 Credit Points • 12 Weeks or equivalent • 3.5 Hours per Week • Lilydale • Prerequisite: LSM100 • Assessment: Discussion threads, Examinations, Tests.

A Stage 2 subject in the Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives

In this subject the emphasis is on understanding the methodology of basic research design and how the associated statistical analysis can provide answers to research questions. Students also receive instruction in the use of Statistical Package for the Social Sciences (SPSS). This computer package will be used to analyse data both in this course and in second and third stage courses in psychology.

Topics to be studied include an introduction to computer based analysis, one and two way factorial design and corresponding analysis of variance, and mixed design analysis of variance.

References


**LSQ202 Qualitative Research**

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale

Prerequisite: LSS100 • Assessment: Assignments, Class presentations, Examinations.

A Stage 2 subject in the Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne Lilydale.

**Aims & Objectives**

This subject aims to develop an understanding of qualitative research methodology and methods including an introduction to the history of qualitative research, grounded theory, data collection, theoretical sensitivity, coding, ethical issues, and presentation of results.

**Content**

- Introduction to qualitative research - Rationale, historical background.
- Nature of qualitative data.
- Approaches: Interpretation, Social anthropology, Collaborative social research, Content analysis, Action research.
- Grounded theory.
- Data collection - Conceptualising, Formulating questions, Bounding.
- Theoretical Sensitivity.
- Coding - Open, Axial, Selective.
- Ethical Issues.
- Presenting results.

**References**

Pattison, M., Qualitative evaluation and research methods, Oxford University Press, 1999.

**LSQ300 Design and Measurement 3**

12.5 Credit Points • 12 Weeks or equivalent • 3.5 Hours per Week • Lilydale

Prerequisite: LSQ200 • Assessment: Assignments, Computer Based Tests, Examinations.

A Stage 3 subject in the Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne Lilydale.

**Aims & Objectives**

This subject aims to extend the range of statistical analysis techniques with which students are proficient, as well as further developing report writing ability.

**Content**

In this subject the topics included in LSQ200 are extended and further topics in design and analysis are considered. The SPSS package will be used to perform the various statistical analyses. Topics to be studied include multiple regression, multivariate analysis of variance and factor analysis.

**References**

Francis, G., Multiple Regression, SUT, Melbourne, 2000.

**LSQ301 Research Project**

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale

Prerequisite: Any two of LSQ200, LSQ201, LSQ202 • Assessment: Class presentations, Project Report.

A Stage 3 subject in Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne Lilydale.

**Aims & Objectives**

To provide students with the opportunity to strengthen their social statistics and research methods knowledge and skills by applying them in a real world context.

**Content**

- Formulate and refine a theoretically sound research question.
- Locate and obtain the data necessary to address this question.
- Prepare the data for analysis.
- Choose appropriate analyses to perform on these data.
- Understand the assumptions and limitations involved in the analyses.
- Write an informative report on the research topic.
- Make a formal presentation of the conclusions.

**References**


**LSS100 Introduction to Sociology**

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale

Prerequisite: Nil • Assessment: Essays, Examinations, Tutorials.

A Stage 1 subject in the Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne Lilydale.

**Aims & Objectives**

The subject is an introduction to sociology and to some of the critical issues in understanding social life. It considers a number of important sociological concepts such as culture, identity and socialisation. It provides an overview of major theoretical approaches in explaining society and the place of the individual within it. This subject also examines key methodological issues in the study of both the structures of society and the behaviour of individuals and groups.

In addition, the subject explores the three dimensions of social inequality; class, gender and ethnicity. It examines a number of social institutions such as the family, education, work and religion.

The subject also offers an introduction to current debates about the nature/nurture dichotomies, as well as postmodernism, a contentious alternative paradigm in sociological inquiry.

**Content**

- Theories and Practice: Sociological Perspectives and Research Methods.
- Culture and Identity.
- Difference, Deviance and Control.
- Dimensions of Inequality: Class, Gender and Ethnicity/Race.

**References**


**LSS200 Difference, Deviance and Conformity**

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale

Prerequisite: LSS100 or equivalent • Assessment: Class presentations, Debate, Essays, Tutorials.

A Stage 2 subject in the Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne Lilydale.

**Aims & Objectives**

The course introduces students to sociological approaches dealing with social problems, deviance/crime and social control. It aims to enhance students’ understanding of the
ways in which individuals and their actions are defined as socially unacceptable and the attempts to control and reform them. The subject focuses on, and analyses in some detail, the three major forms of social control: the legal system, the medical system and the welfare system. In addition, the course explores the ways in which sociological insights can inform policy formulation and implementation in a number of ‘social problem’ areas such as corporate crime, family violence, homelessness, anorexia and AIDS.

Content
- Definitions and Explanations of Deviance, Crime and Conformity.
- Analysis of Sociological Perspectives of Deviance and Crime.

References

LSS201 Sociological Perspectives
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale
Prerequisite: LSS 100 or equivalent • Assessment: Class presentations, Essays, Examinations, Participation.
A Stage 2 subject in the Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
Sociological techniques cannot be applied productively without an understanding of the theoretical issues which inform sociological explanation. This subject will assist students to consolidate and extend their knowledge of sociological theory. In addition, it will enable students to explore ways in which a variety of sociological perspectives may be used to address practical issues such as formulating social policy and conducting sociological research. Class discussions aim to encourage students to identify links between theoretical debates and current social issues.

Content
- The role of the Enlightenment and the Counter-Enlightenment in the development of nineteenth century sociological thought.
- The contributions of Classical sociological theorists, Marx, Durkheim and Weber.
- Development of sociological perspectives in the twentieth century, including Interpretivist Theories, Feminism and Postmodernism.
- Analysis of perspectives including their core assumptions, ideological foundations, and approaches to knowledge and explanation.

References

LSS202 Ethnicity, Culture and Diversity Management: Australia in the Global Context
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale
Prerequisite: LSS 100 or equivalent • Assessment: Class presentations, Debate, Essays, Tutorials.
A Stage 2 subject in the Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
The subject explores how ethnic, racial, social and cultural factors have shaped, and continue to shape, the social, economic, and political development of Australian society since 1788. It examines in some detail how immigration policies and patterns, as well as settlement practices, have contributed to the creation and maintenance of Australia as a nation. The subject also provides an understanding of new patterns and influences in relation to Australia’s experience in contemporary global migration movements and the concomitant need to develop skills for managing an increasingly diverse workforce and population.

Content
- Historical and Contemporary Immigration Patterns in Australia.
- Comparative Analysis of Settlement Practices: Australia, Germany and the USA.
- Theories of Migration.
- Perspectives on Ethnicity and Ethnic Relations.
- International Migration in a Postmodern World.
- Citizenship, National Identity and Human Rights.

References

LSS300 Organisations and Society
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale
Prerequisite: LSS 100 or equivalent, and two second year units. • Assessment: Class presentations, Debate, Essays, Tutorials.
A Stage 3 subject in the Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
The subject provides explanations for the emergence, growth and persistence of vast and extensive, multi-divisional, corporately owned and bureaucratically managed global enterprises. It employs sociological theoretical frameworks to explain various aspects of organisations, such as structural arrangements, organisational culture, formal and informal power, gender patterns, managerialism and the impact of international migration. This sociologically informed analysis will be applied to public and private sector organisations as well as to not-for-profit enterprises, i.e. third sector organisations. The subject also considers forms of organisational restructuring, addresses the resurgence of small businesses, and provides an analysis of Australian organisational approaches and patterns, as compared to those of other societies.

Content
- Historical Development of Large-Scale Organisations.
- Bureaucracy, Rationalism and Democracy.
- Comparison of Public, Private and Third Sector Organisations.
- Sociological Perspectives on Institutions.
- Sociological Theories and Managerialism.
- Modern and Postmodern Organisations.
- Gender and Organisational Power.

References
Cleveland, J., Stockdale, M., Murphy, K., Women and Men in Organizations, Lawrence Erlbaum, USA, 2000.

LSS302 Research Approaches
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale
Prerequisite: LSS 100 or equivalent and second year units. • Assessment: Assignments, Tests, Tutorials.
A Stage 3 subject in the Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
The subject provides an understanding of underlying ideological assumptions and the relationship between sociological theories and a range of social research practices. It offers practical experience and skill acquisition in social research through the use of
different methods and designs. Each student will undertake a small but substantial piece of independent research under staff supervision.

**Content**
- Theoretical Assumptions of Quantitative and Qualitative Research Methodologies.
- Research Design.
- Measurement.
- Principles of Sampling.
- Data Gathering Approaches.
- Data Analysis, Interpretation and Presentation.
- Research Ethics.
- Report Writing.

**References**

**LSY100 Sociology and Social Policy**

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: Nil

A Stage 1 subject in the Bachelor of Social Science which may also be undertaken in any other degree program at Swinburne Lilydale.

**Aims & Objectives**
The subject reviews major theoretical and ideological approaches to social policy and introduces major policy issues, such as problem identification, policy formulation and implementation, evaluation and monitoring. Particular attention is given to the analysis of health policy in a number of key areas such as indigenous health, mental illness and ageing. Other substantive fields of interest are environmental sustainability, population issues and ethics.

**References**

**LSY101 Psychology 101**

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: Nil • Corequisites: LSS101, LCR100

A Stage 1 subject in the Bachelor of Social Science and the Bachelor of Applied Science which may also be taken in any other degree at Swinburne Lilydale.

**Aims & Objectives**
This subject introduces students to the content and method of psychology.

**Content**
Topics introduced in LSY101 include psychology as a science, ethics in research, biological foundations of behaviour, sensation, perception and consciousness, emotion, learning and experimental design and analysis.

**References**

**LSY200 Cognition and Human Performance**

12.5 Credit Points • 12 Weeks or equivalent • 3.5 Hours per Week • Lilydale • Prerequisites: LSY100, LCR100, LSY101, LSS200 • Teaching methods: Lectures, practical sessions, project work, drop-ins • Assessment: Examinations, Class participation, Research Reports.

A Stage 2 subject in the Bachelor of Social Science and the Bachelor of Applied Science which may also be taken in any other degree at Swinburne Lilydale.

**Aims & Objectives**
This subject examines theories of cognitive functioning and processes, including perception, attention, memory, action, categorisation, language, problem-solving and decision making. The aim is to provide up-to-date coverage of recent theoretical and methodological advancements in cognitive psychology.

**Content**
Students will be introduced to the three major perspectives that define current cognitive psychology: experimental cognitive psychology, cognitive science, and cognitive neuropsychology. In addition, some contemporary issues and applications of the theories will be considered.

**References**
LSY300 | Psychology of Personality

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LSY200, LSY200 and one of LSY200, LSY201. • Teaching methods: Lectures, tutorials, drop-ins. • Assessment: Examinations, Research Reports, Class participation, Critical review.

A Stage 3 subject in the Bachelor of Social Science and the Bachelor of Applied Science which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives

This subject focuses on the behaviour and experience of the individual as a whole person. Theory and research from other fields of psychology such as development, social interaction, learning, motivation, cognition, and emotion are considered specifically from the viewpoint of integrating such contributions to increase our understanding of ourselves and others as persons.

Content

Four major perspectives on personality are examined: psychodynamic, dispositional, environmental, and representational. Issues such as methods of personality assessment and research strategies are considered.

Selected contemporary issues are also examined including developments in areas such as psychodynamic theory and cognitive, social and narrative views of self.

References


LSY301 | Psychological Measurement

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LSY200 and one of LSY200, LSY201 • Teaching methods: Lectures, laboratory-sessions, tutorials, drop-ins. • Assessment: Examinations, Research Reports, Class participation, Workbook.

A Stage 3 subject in the Bachelor of Social Science and the Bachelor of Applied Science which may also be taken in any other course at Swinburne Lilydale.

Aims & Objectives

The aim of this subject is to help students to develop a greater appreciation of the psychological and measurement foundations of tests and other assessment procedures.

Content

In this subject, students will be involved with the practical aspects of psychometrics design, construction, validation and evaluation of assessment techniques. Approximately the first hour of most of the two hour sessions will be devoted to information input and the latter hour to laboratory exercises.

References


LSY304 | Abnormal Psychology

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LSY200 and one of LSY200, LSY201 • Teaching methods: Lectures, tutorials, drop-ins. • Assessment: Class presentations, Essays, Examinations.

A Stage 3 subject in the Bachelor of Social Science which also may be taken in the Bachelor of Business and Bachelor of Applied Science.

Aims & Objectives

The subject is designed to introduce students to the ways in which human behaviour patterns have been conceptualised as ‘abnormal’ or dysfunctional. In examining such abnormal behaviours, students are introduced to major systems of classifying mental disorders, in particular the multiaxial system adopted in DSM IV.

The course then focusses on major examples of psychological disorders in terms of their phenomenology and nosology, as well as theories on aetiology.

Content

The general approach taken to understanding disorders is multidimensional, seeking to integrate information from biological, sociocultural and psychological research. Specific disorders examined may include: schizophrenia, affective disorders, anxiety disorders, eating disorders, substance related disorders, disorders first diagnosed in childhood and adolescence, dissociative disorders, intellectual disability or personality disorders.

Additional topics covered may include suicide and violent behaviours, mental disorders and the law.

References


LSY307 | Social Psychology

12.5 Credit Points • 12 Weeks • 3 Hours per Week • Lilydale • Prerequisite: LSY300 and one of LSY200 or LSY201. • Corequisite: Nil • Teaching methods: Teaching methods include lectures, project work and tutorials. • Assessment: Examinations, Research Report.

A Stage 3 subject in the Bachelor of Social Science and the Bachelor of Applied Science which may also be taken in any other degree at Swinburne Lilydale.

Aims & Objectives

This subject involves the scientific study of behaviour in a social context. The aim is to introduce students to the key theories and research methods used by social psychologists to explain and predict people’s thoughts, feelings and actions in social situations.

Content

The course covers the history, methods and ethics of social psychology, the areas of social cognition, attributions, attitudes, prejudice and stereotypes, social influence, attraction, relationships and group processes. Some areas to which social psychological knowledge is often applied, such as culture, health and law, are also covered.

References


LSY500 | Introduction to Psychology 1

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: Nil • Corequisites: LSY500. • Teaching methods: Teaching methods include lectures, tutorials, drop-ins and on-line materials. • Assessment: Examinations, Research Report, Essay, Class participation.

A subject in Graduate Diploma of Social Science (Psychological Studies).

Aims & Objectives

This subject is the first of two introductory psychology subjects and is designed to introduce students to the content and method of psychology.

Content

Topics introduced in LSY500 include psychology as a science, ethics in research, biological foundations of behaviour, sensation, perception and consciousness, emotion, learning and experimental design and analysis.

References


LSY501 | Introduction to Psychology 2

12.5 Credit Points • 12 Weeks • 3 Hours per Week • Lilydale • Prerequisite: LSY500 and LSY500. • Teaching methods: Teaching methods include lectures, tutorials, drop-ins and on-line materials. • Assessment: Essays, Examinations, Research Report, Class participation.

A subject in Graduate Diploma of Social Science (Psychological Studies).

Aims & Objectives

This subject is the second of two introductory psychology subjects designed to introduce students to the content and method of psychology.

Content

This subject concentrates on various aspects of the subject such as memory, information processing, intelligence and problem solving. Other topics covered include: motivation,
References

LSY520 Cognition and Human Performance
12.5 Credit Points • 12 Weeks or equivalent • 3.5 Hours per Week • Lylidale • Prerequisite: LSY500, LSY505, LSY501, LSY520 • Teaching methods: Teaching methods include lectures, practical sessions, project work and drop-ins. • Assessment: Class participation, Examinations, Research Report.
A subject in Graduate Diploma of Social Science (Psychological Studies).

Aims & Objectives
This subject examines theories of cognitive functioning and processes, including perception, attention, memory, action, categorisation, language, problem-solving and decision making. The aim is to provide up-to-date coverage of recent theoretical and methodological advancements in cognitive psychology.

Content
Students will be introduced to the three major perspectives that define current cognitive psychology: experimental cognitive psychology, cognitive science, and cognitive neuropsychology. In addition, some contemporary issues and applications of the theories will be considered. The teaching program involves two lectures and a tutorial/practical session.

References
Findlay, B., How to write psychology laboratory reports and essays. 2nd edn., Prentice Hall, Sydney, 1996.
Haberlandt, K., Cognitiv psychology. 2nd edn., Allyn & Bacon, Boston, 1996.
Martin, M., Cognition. 5th edn., Harcourt Brace, NY, 1996.

LSY521 Developmental Psychology
12.5 Credit Points • 12 Weeks or equivalent • 4 Hours per Week • Lylidale • Prerequisite: LSY500, LOR500, LSY501 • Carequisites: LSY520 • Teaching methods: Teaching methods include lectures, practical sessions, project work and drop-ins. • Assessment: Examinations, Literature Review, Research Report, Class participation.
A subject in Graduate Diploma of Social Science (Psychological Studies).

Aims & Objectives
• To understand the processes of human growth and change from infancy and childhood through to adolescence.
• To examine the biological, psychological and environmental factors involved in growth and change.

Content
Topics may include: Theory and method in developmental psychology, prenatal and perinatal factors in development, perceptual development, physical development, children's play, attachment, cognitive development, language development, moral development, emotional development, gender differences, social development, identity and self awareness, socialisation within the family, socialisation outside the family. The emphasis is on social, emotional, cognitive and intellectual development with a comprehensive experiential and experimental program supporting the theoretical material.

References

LSY520 The Psychology of Personality
12.5 Credit Points • 12 Weeks • 3 Hours per Week • Lylidale • Prerequisite: LSY520 and one of LSY520 or LSY521 • Teaching methods: Teaching methods include lectures, tutorials and drop-ins. • Assessment: Examinations, Critical Review, Research Reports, Class participation.
A subject in Graduate Diploma of Social Science (Psychological Studies).

Aims & Objectives
This subject focuses on the behaviour and experience of the individual as a whole person. Theory and research from other fields of psychology such as development, social interaction, learning, motivation, cognition, and emotion are considered from the viewpoint of integrating such contributions to increase our understanding of ourselves and others as persons.

Content
Four major perspectives on personality are examined: psychodynamic, dispositional, environmental, and representational. Issues such as methods of personality assessment and research strategies are considered. Selected contemporary issues are also examined including developments in areas such as psychodynamic theory and cognitive, social and narrative views of self.

References

LSY601 Psychological Measurement
12.5 Credit Points • 12 Weeks • 3 Hours per Week • Lylidale • Prerequisite: LSY520 and one of LSY520 or LSY521 • Teaching methods: Teaching methods include lectures, laboratory sessions, tutorials and drop-ins. • Assessment: Examinations, Research Report, Workbook.
A subject in Graduate Diploma of Social Science (Psychological Studies).

Aims & Objectives
The aim of this subject is to help students to develop a greater appreciation of the psychological and measurement foundations of tests and other assessment procedures.

Content
In this subject, students will be involved with the practical aspects of psychometrics design, construction, validation and evaluation of assessment techniques. Approximately the first hour will be devoted to theory and the other two hours to laboratory exercises.

References

LSY604 Abnormal Psychology
12.5 Credit Points • 12 Weeks • 3 Hours per Week • Lylidale • Prerequisite: LSY520 and one of LSY520 or LSY521 • Teaching methods: Teaching methods include lectures, tutorials and drop-ins. • Assessment: Class presentations, Essays, Examinations.
A subject in Graduate Diploma of Social Science (Psychological Studies).

Aims & Objectives
The subject is designed to introduce students to the ways in which human behaviour patterns have been conceptualised as ‘abnormal’ or dysfunctional. In examining such abnormal behaviours, students are introduced to major systems of classifying mental disorders, in particular the multiaxial system adopted in DSM-IV. The course then focuses on major examples of psychological disorders in terms of their phenomenology and nosology, as well as theories about aetiology.
Subject Details

LTE200 Organisations and Management

A Stage 2 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To provide an understanding of the issues facing managers in organisations and the context in which they operate. Students will be introduced to a framework that focuses on management in relation to issues associated with contemporary Australian organisations.

To also enable students to better appreciate the context of work they will manage self and others in an organisational setting where students in small groups simulate a business environment, developing their own structure and strategies, and electing their own leaders and managers. Each group has the responsibility for developing a creative small business venture.

Opportunities are provided to develop an appreciation of the value of independent study, as well as the value of learning to be an effective group member, and building on fundamental academic and research skills such as: use of the library and other information sources; analysis and synthesis; written and verbal communication skills; report and essay writing skills; interviewing and questioning skills.

Content
• organisational strategy and structure.
• organisational environments and culture.
• leadership, power and authority.
• interpersonal communication and group dynamics.
• managing change.
• social responsibility and ethics.
• emerging issues for contemporary organisations.

References
To be advised.

LTE201 Human Resource Management

A Stage 2 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
To provide students with an understanding of the nature and importance of HR as an organisational asset.

To have an appreciation of the importance of the HR Manager being involved with the development of strategies of the organisation.

To have a knowledge of the theories, techniques and approaches to dealing with people related problems and issues.

Content
• The nature and importance of human resources in achieving organisational effectiveness.
• HR planning and staffing the organisation.
• Basic interviewing and negotiating skills.
• Training and developing employees.
• Analysing, evaluating and compensating work.
• Establishing and maintaining effective employee relations.

Textbook
** LTE202 Organisational Behaviour **

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prequisite: Four cores LOR100, LC101, LC1 100 and LCT100 • Assessment: Examinations, Group Work, Individual Work

A Stage 2 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

** Aims & Objectives **

To provide students with a sound knowledge and personal understanding of the impact of human behaviour on work in groups and organisations.

** Content **

There is an increasing emphasis in organisations on creating self-managing work teams, and students will be asked to systematically develop competencies in working in group situations. Student experiences both in and out of the class will be used as a starting point for this development. By reflecting on their experience and applying their personal learning, students will gain insight into the behaviour of people as individuals and group members within organisational settings. They will be challenged to learn about their own behaviour and their impact on others.

** Textbook **


** References **


** LTE300 Organisational Change and Development **

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prequisite: Any two of LTE200, LTE201, LTE202 • Assessment: Examinations, Individual assignments.

A Stage 3 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

** Aims & Objectives **

- To develop proactive attitudes and behaviours towards the rapid change and development occurring within national and international businesses and industries.
- To learn how to handle the impact of planned and unplanned technological, economic and social changes within the subsystems of organisations.

** Content **

- Corporate and societal culture.
- Globalisation: Its impact, cause and effect.
- The economics of organisational change.
- The meaning and nature of work.
- Rightsizing and its effect on internal environment.
- Health and wellbeing of employees.
- Development and implementation of interventions.
- Managing Diversity - recruitment, selection, training and promotion (National and International).
- Organisational development.

** Textbook **


** References **


** LTE301 Strategic Planning and Project Management **

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prequisite: Any two of LTE200, LTE201, LTE202 • Assessment: Examinations, Group Work, Individual Work.

A Stage 3 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

** Aims & Objectives **

To introduce students to the concepts and practical issues associated with strategic planning and project management within an organisation. A business simulation provides students with feedback on the strategic decisions made in managing a corporation.

** Content **

- Strategic planning.
- The role of management in the planning process.
- Planning for innovation.
- Project management.
- Project management software.

** References **


** LTE302 Leadership and Management **

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prequisite: Any two of LTE200, LTE201, LTE202 • Assessment: Examinations, Individual assignments.

A Stage 3 subject in the Bachelor of Business which may also be undertaken in any other degree program at Swinburne Lilydale.

** Aims & Objectives **

- To develop the professional expertise of managers and leaders.
- To become aware of the role managers and leaders have within the Pacific Rim.

** Content **

This subject explores the conflicting needs of business organisations, to have managers for day to day operations, and leaders to create the vision and new approaches to forge a successful transfer into this millennium. Whether managers and leaders are mutually exclusive is critically debated. The differing attitudes, goal orientations, motivations, use of influence and relationships of managers and leaders with others are compared and contrasted.

** References **


** LTT100 Introduction to Tourism **

12.5 Credit Points • 12 Weeks • 3 Hours per Week • Lilydale • Prequisite: Nil • Teaching methods: A mixture of lectures, tutorials, experiential learning exercises, group based work, computer based learning activities, independent learning tasks and peer mentoring. All learning activities will have a student centred focus. • Assessment: Assignments, Examination, Group Work, Tests

A Stage 1 subject in the Bachelor of Business (Tourism and Management) which may also be undertaken in any other degree program at Swinburne Lilydale.

** Aims & Objectives **

- To develop understanding of the links between theory and practice in tourism.
• To provide an introduction to the historical, social and business factors which drive the tourism industry internationally, nationally and locally.

Content
• History of Tourism - pilgrimage to national pastime.
• The Psychology of Tourism - personal motivations and needs.
• The Sociology of Tourism - understanding tourists.
• Macroeconomics and Tourism - organisational, management and marketing factors in the industry.
• Case Studies - enterprises involved with tourism.

References

LTT201 Tourist Destination Management
12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LTT200 • Assessment: Assignments, Examinations, Tests.
A Stage 2 subject in the Bachelor of Business (Tourism and Enterprise Management) which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
• To identify the degree of interdependence in a region’s tourism industry.
• To study the roles and functions of destination tourism organisations.
• To examine the contribution of technological advancement to tourist destination management.
• To develop strategies for the sustainability of a destination’s tourism industry.

Content
• Tourist Destination Areas - the regionalisation process, growth and development.
• The Destination Environment - physical, sociocultural, economic.
• Sustainability and management processes.
• Destination marketing.
• Tourism and the Community.

Textbook

References

LTT204 Regional issues in Tourism
12.5 Credit Points • 12 Weeks • 3 Hours per Week • Lilydale • Prerequisite: LTT100 • Teaching methods: Depending on local conditions and constraints delivery of the subject in Budapest and Singapore may vary. Recognising that in some instances this will involve block delivery the format of sequential lecture and tutorial will not always be followed. LTT204 Pacific Rim Issues in Tourism delivered at Swinburne, Lilydale will follow established lecture and tutorial format. • Assessment: Individual or group research assignment, Mid Term Revision test, Final Examination
A Stage 2 subject in Bachelor of Business (Tourism and Management) which may also be undertaken in any other degree program at Swinburne Lilydale.

Aims & Objectives
Although tourism is clearly a global phenomenon, the issues facing, tourism operators and developers are, more often than not, regional in nature. The formation of regional
alliances, ranging from simple cooperation to highly formalised intra-regional communities such as the European Union is now more common place, as regions seek to achieve trade & financial advantage by combining their resources. Paradoxically tourism, which by its very nature is driven by a sense of difference, is increasingly succumbing to the forces of globalisation which seek to impose a standardised vision of service without regard for diversity.

The subject seeks to highlight the particular issues facing two of the world’s most significant & rapidly growing regions, with particular emphasis on the challenges and future directions for tourism.

To that end it is proposed that the subject be offered in two modes as follows:

- European Issues in Tourism (to be offered at College International Budapest, Hungary)
- Pacific Rim Issues in Tourism (to be offered at Swinburne University, Lilydale and in Singapore)

**Content**

**European Issues in Tourism**

- History of European Tourism
- Tourism Policy in the EU – Policy & Planning Implications
- Transport & Transport Policy in the EU
- The emergence of CEE (Central Eastern European) countries and the implications for European Tourism
- Social Policy, Employment and Training in European Tourism
- Trends & Directions for European Tourism

**Pacific Rim Issues in Tourism**

- Development of the Pacific Basin and its implications for tourism
- The impact of newly industrialised countries on population demographics and demand for tourism
- The democratisation of China and its impact on tourist flows
- The changing face of demand for tourism in the Asia Pacific Region
- Intra-regional alliances in Asia Pacific tourism: marketing and ownership examples.

**References**

Given the deliberate specifics of the two modes, the following are prescribed references in each instance. These will be supplemented by an extensive range of journal articles addressing contemporary issues in the respective regions.

**European Issues in Tourism**


**Pacific Rim Issues in Tourism**

Hall, C.M., Tourism in the Pacific Rim, 1986.

**LTT300 Tourism Channels and Travel Management**

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LBM100, LBM 200, LTT200 • Assessment: Assignments, Examinations.

A Stage 3 subject in the Bachelor of Business (Tourism and Enterprise Management) which may also be undertaken in any other degree program at Swinburne Lilydale.

**Aims & Objectives**

- To introduce the components of the value chain involved in the organisation of travel.
- To develop skills, knowledge and attitudes required for successful tour operations.
- To examine the management processes required for organisation of special events.

**Content**

- The Travel Sector - from departure to homecoming.
- Tour Organisation - management and marketing, “responsible” travel.
- Special Events - planning, promoting, running and evaluating.

**References**


Textbooks to be advised.

**LTT302 Planning and Management in Ecotourism**

12.5 Credit Points • 12 Weeks or equivalent • 3 Hours per Week • Lilydale • Prerequisite: LTT200 • Assessment: Assignments.

A Stage 3 subject in the Bachelor of Business (Tourism and Enterprise Management) which may also be undertaken in any other degree program at Swinburne Lilydale.

**Aims & Objectives**

- To demonstrate the need for environmentally sensitive management of tourism resources.
- To encourage the development of attitudes, skills and knowledge required for sustainable tourism operations.
- To examine the regulatory and legal framework within which ecotourism operators must work.
- To consider the factors which will influence ecotourism operations in the future.

**Content**

- The concept of sustainability.
- Evolution of ecotourism - problems and solutions.
- Environmental impact - identification and assessment, legal constraints.
- Planning and decision making.
- Case studies.

**References**


**LZZ301 Work Integrated Learning Project**

12.5 Credit Points • 130-160 Hours • Six 2 hour class in first three weeks (introductory/preparatory sessions) • Lilydale • Prerequisite: Completed all Stage 2 subjects for a selected major/minor. No previous attempt to complete LZZ301. Not available concurrently with Industry-based Learning, LZZ306/012. • Teaching methods: This subject uses a mix of methods directed to achieving the stated objectives. Team work is an essential aspect, building on previous experience working in teams and groups. • Assessment: 1. Project Brief and Agreement form - completed and submitted 2. Project Proposal - oral presentation, 3. Final Project Outcomes - oral presentation. 4. Final Project reports completed and submitted: (a) practical report for the client, (b) reflective report for the supervisor.

A final year subject which can be undertaken by students from any Swinburne Lilydale course.

**Aims & Objectives**

- To provide students with the opportunity to strengthen their major/minor studies, knowledge and skills through their involvement in a workplace based project for a business, industry, government or community-based client.
- Development of a project specification and plan.
- Project management and development.
- Project documentation and communication.

**Content**

Students will undertake the project in a group, usually consisting of two to four students, under the limited direction of a staff project supervisor and a representative from a sponsoring organisation (where appropriate).

**References**


Other texts as prescribed throughout the subject.

**LZZ306 Industry-based Learning (6 month placement)**

0 Credit Points • Minimum 20 Weeks, usually 26 weeks (including pro rata leave) • Lilydale • Prerequisite: Usually completion of Stage 2 Studies with a Credit average. • Teaching methods: This subject uses a mix of methods directed to achieving the stated objectives, as determined by the nature of the placement. In essence, students will be required to self manage all aspects of the subject, thereby being responsible for their own success.

A Final Year unit which may be undertaken by students from any Swinburne Lilydale course.
Aims & Objectives
This subject uses a mix of methods directed to achieving the stated objectives, as determined by the nature of the placement.

- To provide students with the opportunity to apply theoretical knowledge and skills gained during their studies in a practical/workplace environment.
- To provide focus and direction to students in both their final year of studies and future career path.
- To provide students with the opportunity to enhance existing skills and knowledge and to further develop skills and knowledge in their major/minor areas of study.
- To provide an environment and experience in which students will enhance their personal and professional maturity.
- To provide students with insights into and an understanding of contemporary workplace culture, issues and directions including global and technological development.

Content
- Students will work in the industry placement to which they have been assigned.
- Students will work under supervision of their industry supervisor and with support from an academic mentor and other university staff as required.

References
As appropriate to the discipline.

LZZ312 Industry-based Learning (12 month placement)
0 Credit Points • Minimum 40 Weeks, usually 52 weeks (including pro rata leave) • Lilydale • Prerequisite: Usually the completion of Stage 2 Studies with a Credit average.
- Teaching methods: This subject uses a mix of methods directed towards achieving the stated objectives, as determined by the nature of the placement. In essence, students will be required to self-manage all aspects of the subject and are thereby responsible for their own success. • Assessment: Assignments (University) and projects (Workplace duties) are assessed by the academic mentor and workplace supervisor.

A Final Year unit which may be undertaken by students from any Swinburne Lilydale course.

Aims & Objectives
- To provide students with the opportunity to apply theoretical knowledge and skills gained during their studies in a practical/workplace environment.
- To provide focus and direction to students in both their final year of studies and future career path.
- To provide students with the opportunity to enhance existing skills and knowledge and to further develop skills and knowledge in their major/minor areas of study.
- To provide an environment and experience in which students will enhance their personal and professional maturity.
- To provide students with insights into, and an understanding of, contemporary workplace culture, issues and directions including global and technological development.

Content
Students will work in the industry placement to which they have been assigned. Students will work under supervision of their industry supervisor, with support from an academic mentor and other university staff as required.

References
As appropriate to the discipline.